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INTRODUCTION

This is a book about cow-dung, or rather the ash of cow-dung. As a serious inquiry it might be said to have arisen from a mining engineer's incredulity that anyone could have brought together such a monstrous collection of cow-dung 'cakes'. Our inquiry led us back to the phenomena which gave rise to the taunt: the mysterious but little-noticed ashmounds of the Central Deccan of India. Visits to several of these mounds encouraged us to excavate one in order to test the hypothesis we had formed. Excavation led on to the study of the objects brought to light and to the certainty that our hypothesis was along the right lines. Thence the trail ran with unexpected facility from archaeology to modern ethnology. We discovered that there were several traditional accounts relating to the mounds. Those of the learned members of what has been called the 'great' Indian tradition were of little assistance, although not without cultural significance; those of the illiterate villagers were sometimes of startling accuracy and transported us back in time to the period when the ashmounds were still in the process of formation. The evidence of place-names has been considered and this too supplies very convincing information.

Thus armed we have proceeded to investigate the life and culture of modern pastoral groups in the Indian peninsula and the many suggestions of ancient pastoral elements surviving in folk religion. Finally, we have attempted to make as complete a cultural–historical reconstruction as our evidence permits. In retrospect it is the methodological interest of the inquiry, no less than the result itself, which stands out. The necessary preliminaries of our excavation were the collection of data and the building of hypotheses; surface survey and collection also played their parts. In interpreting the archaeological evidence the ancillary disciplines of ethnology, place-name study, and comparative religion all make contributions.

European travellers have never ceased to express surprise at the respected position held by the cow in India. The surprise has often turned to distaste when respect is extended to the *pañca-gavya* or five products of the cow: milk, butter, curds, dung and urine (or 'solid and liquid excreta' as Monier Williams names the last two). The uninitiated European may even feel uneasy at the use of cow-dung for the cleaning and purification of the walls and floors of houses and courtyards, although those who know will reassure him that the practice is clean and hygienic, deterring vermin and if anything imparting a pleasant smell. The worship of cattle, whether of cows, draught oxen or sacred 'dedicated' bulls, is by no means exclusive to India, but it has been peculiarly

identified with her. For the outsider these things and such concomitants as the cult of the cow as mother, the refusal to eat beef or to slaughter even useless cattle, the *go-śālās* or cow hospitals which are sometimes established in places which lack even hospitals for men, these things are at best strange and faintly ridiculous. But for those who are attuned to Indian civilization they are culture traits of great interest, clues whose significance must not be overlooked. There is a close relationship between certain modern breeds of Indian cattle and those depicted four thousand years before on the seals of Harappa and Mohenjo-daro. This hints at the antiquity of these breeds and at the social, cultural and environmental continuum of life in India. It is because of this that the present study has assumed a wider significance in my eyes.

The conversion of cow-dung to ash, *vibhūti* (that which is abundant or mighty), and the application of that ash to the human body for ritual purposes, cleansing, etc., is another special feature of the Indian cult of cattle. Of this aspect a single example must suffice to indicate its relevance. The passage quoted on p. xvi is from the *Bṛhajjābālopaniṣad*, a work which is doubtless late by comparison with the great *Upaniṣads*, but still old enough to command respect.[1] It tells how from the five forms of Śiva were created the five elements and from them five cosmic cows, each of a different colour: the tawny cow Nandā (joyous) from whose dung the ash called *vibhūti* was created, the dark cow Bhadrā (auspicious) from whose dung the ash called *bhasita* was created, the red cow Surabhi (fragrant) from whose dung the ash called *bhasma* was created, the white cow Suśīlā (amiable) from whose dung the ash called *kṣāra* was created, and the spotted cow Sumanā (charming) from whose dung the ash called *rakṣā* was created. With a truly national love of mystical etymology the author traces the significance of these five names of ash: it is *bhūti* (or *vibhūti*) because of its excessive gloriousness, *bhasma* because it devours all sins, *bhasita* because of its brilliance, *kṣāra* because it burns up calamities, and *rakṣā* because it protects from ghosts, spirits, demons, magical beings, the falling sickness and the terrors of existence. The mighty efficacy which the Indian tradition ascribed to cow-dung ash applied in the form of the sacred mark *tripuṇḍra* is clearly described in another Upaniṣad, the *Jābālyopaniṣad*: that man who makes the *tripuṇḍra* with ash, be he learned, celibate, householder, forest-dweller or ascetic, he becomes cleansed of sins both great and small. He becomes as one learned in all the Vedas; and who meditates on all the gods. He becomes as one who has bathed at all the places of pilgrimage; and who has repeated all the Rudra *mantras*. He is not born again, he is not born again.[2] These texts, although

[1] The text I have used is that of Pandit A. Mahadeva Sastri, *The Śaiva Upaniṣads* (Adyar, 1950), pp. 89–90.
[2] Sastri, *op. cit.* p. 68.

in no way directly associated with the period or practices which are our subject, indicate in a most forceful manner the way in which our researches fit into the wider Indian cultural context.

My first actual encounter with the Deccan ashmounds was during a field trip to India in 1951–2. Before leaving London I had planned to work in the Raichūr Doāb and was familiar with the literature, but my interest in the ash-mounds was rather discouraged by a discussion with a celebrated archaeologist who drew my attention to the conclusions of Sir Leonard Woolley, and himself opined that the ash was some sort of industrial waste or slag, probably a by-product of iron-working. This view from so eminent a scholar so influenced me that though I visited several of the known mounds and even discovered a hitherto unknown site at Piklihāl I made little or no inquiry into their nature. And, though I collected several samples of the ash, it was only after my return to London that I gave the matter any thought. That I did so then was due, in no small measure, to my reading the critical appraisal of the evidence made by Professor Subbarao in his unpublished thesis.[1] Reviewing this evidence in the light of our excavations at Piklihāl it was possible to see a new significance in the mounds. Piklihāl had shown for the first time that the Neolithic culture of the Deccan was largely based upon pastoralism and that the Indian humped cattle formed the most common domestic species. All this would support Foote's view that the mounds were of Neolithic age. Further support was also available when Professor Zeuner completed his study of ash samples in 1953. This showed that the ash was, as Foote had concluded, derived from burnt cow-dung. Thus it was in every way reasonable to see in the mounds the sites of burnt-out Neolithic cow-pens. This hypothesis demanded proof and I then decided that when next able to visit India I should spend some time in the Deccan investigating it. The opportunity came in 1957–58 during a year's study-leave from the School of Oriental and African Studies, London, where I was then Lecturer in Indian Archaeology. The plan was twofold: first to visit a representative number of the known mounds; and then to select the most promising for excavation. I had at first hoped to excavate at Gaudūr but several things, including a prolonged outbreak of cholera in the village, and its in-accessibility, dissuaded me. On the other hand the Utnūr mound proved to be well preserved and likely to yield good results and it was accordingly selected. At this stage I should like to acknowledge the good offices of Dr Srinivasachar, who was at that time Director of Archaeology in Andhra Pradesh, for suggesting that his department should excavate the site under my technical supervision.

[1] B. Subbarao, 'Prehistoric and Early Historic cultures of Bellary', unpublished Ph.D. dissertation for the University of Bombay, 1949.

The excavation was done in three weeks in September 1957. As the Director-General of Archaeology in India had previously indicated that he would not permit me to take any of the excavated materials back to England, their entire study had to be accomplished before we left India. This task was done in September and October of that year. The report of the excavation at Utnūr has now been published by the Archaeological Department of Andhra Pradesh.[1]

The exploration of the other ashmounds was mainly done during the summer months of 1957 and provided considerable material to broaden the excavation report. When I came to write the record of this work it became increasingly clear that several other types of evidence provided the necessary comparative material for interpreting the ashmounds. I found that there was a suggestive number of place-names containing the element 'ash'; that there were traditions still surviving at several mounds that they were ancient cattle-pens; that there was abundant evidence of modern herding methods which could, with very slight change (namely that cow-dung ceased to have a commodity value), be invoked to account for the dung accumulation; and finally that there survived throughout India in cattle rites and folk religion a host of apparent survivals of an 'ash-fire' cult. The complete evidence seemed to demand a sequent version so that the whole research process from first to last could be recorded. In doing so it was necessary to summarize the archaeological evidence from the excavation (chapters 2 and 3), and the exploration (chapters 4 and 5), and to describe the various sorts of ethnographic evidence we had assembled.

In opening this story with the history of the problem, I wish to point out the clear lesson it raises. The problem of the ashmounds was solved first by Newbold and Foote through their observations at actual sites. The further proofs arose from laboratory tests of ash. By the end of the nineteenth century the matter should have been finished, and yet until the middle of the twentieth century no worker who considered the problem was prepared to accept Foote's hypothesis, and—what is more—no archaeologist was sufficiently interested to submit the hypothesis to experimental test. Archaeological research methods are, in their way, linked to those of science—in the collection of observational data, the framing of hypotheses, and the testing of hypotheses experimentally. The experiments take the form of further field and laboratory observations and as they arise from the hypotheses framed in the earlier stage they are oriented accordingly. Thus the archaeological research method is essentially experimental. Looking back over this history we can see that some have observed and collected data innocently and blindly (as did Mackenzie and Munn), others purposefully and scientifically (as did Newbold and Foote). Foote was guided

[1] F. R. Allchin, *Utnūr Excavations* (Hyderabad, 1961).

and aided in his work by the hypotheses he framed as he worked. Others (as Sewell) added no observational data and allowed their theory-building to proceed without reference to the facts—in this case the mounds themselves and the objects they produced. It may be objected that we ourselves, after the collection of facts in chapters 2–5 have allowed our theories to run away with themselves. But this is not the case. In seeking to probe the interpretation of the mounds and to reconstruct their history we have sought out evidence of other than narrowly archaeological kinds. Here too we have tried to assemble our facts without prejudice, and when finally we turn to their interpretation we feel that they amply repay the trouble we have taken with them; for 'no human custom or practice exists today or ever has existed in isolation, and once it has existed, unless good cause can be found to show why it has disappeared, traces should still survive at least in fossil form. . . . Thus the cultural behaviour and human activities which gave rise to the ashmounds should still live on "in-capsulated", as R. G. Collingwood had it, upon the tongues and in the minds and hands of men' (below, p. 88).

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Finally, I wish to acknowledge the great debt of gratitude which I owe to my wife, Dr Bridget Allchin, for all the help she has given me at every stage of the work.

F. R. A.

CAMBRIDGE
February 1962

ABBREVIATIONS

ABORI	*Annals of the Bhandarkar Oriental Research Institute.*
AI	*Ancient India.*
ARASI	*Annual Report of the Archaeological Survey of India.*
ARHAD	*Annual Report of the Hyderabad Archaeological Department.*
BDCRI	*Bulletin of the Deccan College Research Institute.*
BIA	*Bulletin of the Institute of Archaeology, London.*
BSOAS	*Bulletin of the School of Oriental and African Studies, London.*
Ind. Ant.	*Indian Antiquary.*
IPPA	*The Foote Collection of Indian Prehistoric and Protohistoric Antiquities: Notes on their Ages and Distribution.*
IPPACR	*The Foote Collection of Indian Prehistoric and Protohistoric Antiquities: catalogue raisonné.*
JAHRS	*Journal of the Andhra Historical Research Society.*
JASB	*Journal of the Asiatic Society of Bengal.*
JASBom.	*Journal of the Anthropological Society of Bombay.*
JHGS	*Journal of the Hyderabad Geological Survey.*
JIH	*Journal of Indian History.*
JMGA	*Journal of the Madras Geographical Association.*
JRAS	*Journal of the Royal Asiatic Society.*
JRSA	*Journal of the Royal Society of Arts.*
MJLS	*Madras Journal of Literature and Science.*

Old stone to new building, old timber to new fires,
Old fires to ashes, and ashes to the earth
Which is already flesh, fur and faeces,
Bone of man and beast, cornstalk and leaf.

Round and round the fire
Leaping through the flames, or joined in circles,
Rustically solemn or in rustic laughter . . .
Keeping time,
Keeping the rhythm in their dancing
As in their living in the living seasons
The time of the seasons and the constellations
The time of milking and the time of harvest
The time of the coupling of man and woman
And that of beasts. Feet rising and falling.
Eating and drinking. Dung and death.

T. S. ELIOT, *East Coker*

ॐ तथेति । सद्योजातात् पृथिवी । तस्याः स्याच्चिवृत्तिः ।
तस्याः कपिलवर्णा नन्दा । तद्गोमयेन विभूतिर्जाता ॥ १० ॥

वामदेवादुदकम् । तस्मात् प्रतिष्ठा । तस्याः कृष्णवर्णा भद्रा ।
तद्गोमयेन भसितं जातम् ॥ ११ ॥

अघोराद्वह्निः । तस्माद्विद्या । तस्या रक्तवर्णा सुरभिः ।
तद्गोमयेन भस्म जातम् ॥ १२ ॥

तत्पुरुषाद्वायुः । तस्माच्छान्तिः । तस्याः श्वेतवर्णा सुशीला ।
तस्या गोमयेन क्षारं जातम् ॥ १३ ॥

ईशानादाकाशम् । तस्माच्छान्त्यतीता । तस्याश्चित्रवर्णा
सुमना । तद्गोमयेन रक्षा जाता ॥ १४ ॥

विभूतिर्भसितं भस्म क्षारं रक्षेति भस्मनो भवन्ति पञ्च
नामानि । पञ्चभिर्नामभिर्भृशमैश्वर्यकारणाद्भूतिः । भस्म सर्वाघ-
भक्षणात् । भासनाद्भसितम । क्षारणादापदां क्षारम् । भूतप्रेतपि-
शाचब्रह्मराक्षसापस्मारभवभीतिभ्योऽभिरक्षणाद्रक्षेति ॥ १५ ॥

(बृहज्जाबालोपनिषत्)

CHAPTER 1

THE PROBLEM OF THE ASHMOUNDS

The first notice of the 'cinder' or ashmounds of the Karnataka region (as we shall here call them) must have been by Col. Colin Mackenzie whilst he was surveying there in the opening years of the nineteenth century. At least this may be inferred from the statement of his faithful assistant Cavelly Venkata Lutchmia who long after wrote to Newbold telling him of two such mounds in the 'Chittledroog country' called Būdiguṇṭa and Būdibeṭṭa.[1] It appears, too, that ash samples collected at that time were once housed in collections of the Madras Literary Society. The same writer also noticed that the natives regarded the mounds as the graves of demons. A further reference to Mackenzie's observations is to be found in Taylor's *Examination and Analysis of the Mackenzie Manuscripts* (Calcutta, 1838), where an account is quoted of a 'hillock of white pebbles (fossil remains) at Callipiliyar in the district of Chettupat'. This mound was also associated with the bones of two *rākshasas*. Taylor notes that if the hill is really a fossil petrification its examination by scientists should be of interest.[2] It was left, however, to Newbold to make the first scientific investigation and report upon the mounds. In the description of the Budhighunta mound which he sent to Prinsep the ash was regarded as a volcanic scoria (a term suggested by Prinsep himself).[3] Meanwhile, Cole in Madras showed some of Newbold's specimens to Dr Benza who pronounced that they were a 'common limestone slag', a conclusion with which Cole readily concurred. He, too, published a brief account of the mound, illustrated with a sketch.[4] Thus, when Newbold came to write of his further observations in 1843, there were several theories already current regarding the ash: as a fossil substance, as an ancient kankar more or less calcined and semi-vitrified, and as a volcanic or limestone slag. Newbold now made two excavations of one of the Kupgal mounds. Here the discovery of bones, rude pottery and a spheroid rubbing-stone of green diorite in obviously stratified deposits immediately convinced him that the mounds

[1] T. J. Newbold, 'On some ancient mounds of scorious ashes in Southern India', *JRAS*, VII (1842–3), pp. 129–36.
[2] W. Taylor, *op. cit.* p. 10.
[3] T. J. Newbold, 'Note on the occurrence of volcanic scoria in the southern peninsula', *JASB*, V (1836), pp. 670–1.
[4] R. Cole, 'Note on certain mounds of scoriaceous character found near Bellary', *MJLS*, VII (1838), pp. 130–3.

were of artificial, human origin.[1] Accordingly, he turned to the examination of their purpose. One by one he rejected the possibilities that they were the by-products of lime-burning, brick-making, pottery-making, iron-smelting, or glass furnaces. He next questioned the village elders of the neighbourhood and found that they agreed with the views of Venkata Lutchmia, that the sites were those of *rākshasa* immolations. Thus he concluded that there might be some significance in their association with funerary places.

Thirty years passed before any new light was thrown upon the mounds. In 1872 Bruce Foote visited for the first time Būdikanama and from the observations he then made was able to confirm Newbold's view that it was not a volcanic or other natural accumulation. In fact, his observations were later substantiated by visits to numerous other mounds and led him to formulate the view that they were of Neolithic origin. He sought support for this in their 'close connections with the Neolithic settlements'. As regards the nature of the ash and the reason for the mounds Foote advanced the quite novel theory that it was of burnt cow-dung and that some at least of the sites (those which he called cinder camps because they suggested the form of an outer wall of ash with a depression in the centre) could be accounted for by what he called the *Zariba* process. This he had noticed in reading Stanley's *In Darkest Africa*, where the author described the walls of dung accumulated outside the thorn fence or *zariba* of East African villages. He further remarked that of course the proper way to test the truth of the theory and the real origin of the mounds would be 'to cut a section through it, a work which ought to be executed by the Archaeological Survey'.[2] As a matter of fact at about the time when Foote wrote these lines two other amateur archaeologists, Knox and Fawcett, did indeed excavate two small trenches in one of the Kupgal mounds, they too found bones, pottery and other debris including, from a deposit cut by a rain gully but none the less undisturbed, two ground stone axes. They were apparently ready to accept Foote's theories, for in his unpublished notes (now with the Royal Anthropological Society in London) Knox adds further supporting evidence.

The reader who turns to the excavations at Utnūr, conducted three-quarters of a century after Foote had reached these conclusions, may justly be astonished at the unerring instinct that guided him. When he first made his hypothesis it was without the support of a chemical analysis of the ash. This was only forthcoming later when Bosworth Smith sent samples to the Presidency College in

[1] T. J. Newbold, 'On some ancient mounds of scorious ashes in Southern India', *JRAS*, VII (1843), pp. 129–36.

[2] R. B. Foote, 'Notes on some recent Neolithic and Palaeolithic finds in South India', *JASB*, LVI, pt. 2 (1887), pp. 259–82.

Madras. He may also wonder how it was that the problem then so nearly solved could have resisted solution so long. Before I turn to the curious story of later work I should like to pay my personal homage to Foote's memory, as a scientist and archaeologist of such quality and penetration.

Foote's views were unfortunately not generally accepted. The first variant upon them came from his friend Sewell who interested himself in the mounds while stationed in Bellary. Sewell was prepared to accept the Zariba theory only in accounting for the 'cinder camps', but sought elsewhere for the explanation of the other mounds. He seems to have been unduly influenced by the proximity of one mound, at Nimbāpur, to the city of Vijayanagara and argued therefrom that it must be of medieval date. Further, he sought to explain the accumulations as the ashes of vast holocausts. He searched for textual support in references to mass *sati*, etc. Thus he adapted Foote's thesis to his own purpose and sought to adopt it to his preconceived ideas.[1]

Sewell's views were largely theoretical and made little attempt to explain the phenomena observed in the mounds themselves. He was apparently unperturbed by the almost universal absence of human bones, nor was he struck by the many fragments of bovine remains. The same must be said of Longhurst, who visited several mounds and even excavated at Būdikanama. His account adds little to Foote's, except perhaps in so far as it reinforces his observations. He too thought the mounds must be medieval and altogether accepted Sewell's ideas on their origin.[2] A novel twist to these versions was given by Sir J. J. Modi who had visited Lake Urmiah and read Jackson's account of the ashmounds in that region.[3] We shall be considering the value and significance of Jackson's account below (p. 70), but here we may notice that the interpretation given by Modi was that these mounds represented ancient Iranian burial places, and that their occurrence in South India indicated an ancient contact with Iran.[4] The difficulties in accepting such a view are obvious.

Foote had recorded over a dozen sites. Between 1928 and 1936 Captain Leonard Munn and his assistants of the Nizam's Geological Survey were responsible for the discovery of some fifteen additional sites. Neither Munn nor his assistants made any essential contribution to the problem of the mounds, but the material they collected has proved valuable in many ways. Munn's interest was first aroused by a visit to Gaudūr and Wandalli mounds. At first he took the latter for 'a calcareous spring' but after examination he realized this to be incorrect. He was critical of Foote's theory, for having estimated the cubic

[1] R. Sewell, 'The cinder mounds of Bellary', *JRAS*, n.s., XXXI (1899), pp. 1–16.
[2] A. H. Longhurst, 'The cinder mound at Kudatini in the Bellary district', *ARASI* (1912–13), pp. 145–7.
[3] A. V. W. Jackson, *Persia Past and Present* (1906), pp. 36, 90–8, etc.
[4] Sir J. J. Modi, 'The Gaur tappas of Azerbaijan', *JASBom*, XIV (1927–30), pp. 400 ff.

capacity of Gaudūr he wondered how anyone could possibly collect so vast a quantity of cow-dung cakes! However, he went on to reason, in much the way Newbold had done a century before, that the mounds could not be by-products of gold working, nor of glass making. Likewise he found difficulties in the views of Sir J. J. Modi, and his final conclusion was that the 'origins of these mounds have still to be explained'.[1] One further contribution made by Munn and his assistants was the discovery that at several places identical ash had been used to provide a covering for stone circle graves, while at another place a circle of great stones had been placed on top of an ashmound. This provided a *terminus ante quem* for the ash accumulation, and thus a further indication of the relative age of the ashmounds.

Munn's cautious approach to the meaning of the mounds may be said to mark the end of a period which had been characterized by emphasis of the funerary interpretation. The next contributors to our story tended to seek a more practical, industrial, explanation. Thus Yazdani wrote, in 1936, after a visit to Gaudūr, 'In the opinion of the Archaeological Department [of Hyderabad] the ashmound marks the site of an old iron or gold smelting factory'.[2] Such a view was scarcely in keeping with technological facts, since the refining of gold, even by the cupellation method, could never call for such mighty conflagrations: we shall consider iron-smelting shortly. The improbability of gold-smelting as an explanation was stressed by Mr Aitken of the Hutti Gold Mine in an unpublished letter. He further pointed out that an assay had produced no evidence of gold.[3] The theory that the mounds represented iron-smelting sites was, however, given support by the visits of Sir Leonard Woolley and K. N. Dikshit in 1940. Thus, Būdikanama was described as 'an early ironworks' and Sir Leonard later wrote that there was plenty of iron slag, which he had chemically tested, and of implements used by the ironfounders, which were without exception of rough flint.[4] We can only conclude that there had been some confusion of samples, since at this mound in particular, but also at many others, all the most reliable and thorough observers, including Newbold, Foote, Munn and Mahadevan had expressly commented upon the absence of any iron slag, and the scarcity of even stone tools. Further, the ethnographic evidence which has accumulated since first Heyne and Buchanan described the traditional methods of iron-smelting found in almost every part of the sub-continent has shown the surprising uniformity of the tradition and the obvious and vital role of charcoal

[1] L. Munn, 'Letters on various topics', *ARHAD* (1927–8), App. C, p. 27; and 'Prehistoric and protohistoric finds', *JHGS*, II, pt. 1, pp. 126 ff.
[2] G. Yazdani, 'Notes on a survey of Neolithic sites', *ARHAD* (1935–6), App. A, p. 20.
[3] See below, p. 82.
[4] L. Woolley, 'Some aspects of problems in Indian archaeology', *JRSA*, LXXXVIII (1940), p. 191.

as a fuel. It is indeed not easy to see any possibility of the mounds arising from iron-smelting, and the good evidence collected by Foote and others clearly militates against such a proposal. Indeed the published view of Woolley was in contradiction to his own field-notes. There he stated that he found several stone axes on and around the Kupgal mound and his first impression was that there was no iron slag at the site.[1] The next writer to consider the mounds was Professor Subbarao. He found in his excavations at Sanganakal, near Bellary, samples of apparently similar ash in Neolithic levels and was thus able to confirm Foote's ideas of date. But he felt as unconvinced as Munn by the earlier attempts to explain the problem and after inclining to a practical, industrial explanation, as yet not apparent, he concluded 'we have to reserve our judgement'.[2] We must notice one further worker in the field. In 1949 Professor Zeuner visited a number of ashmounds and collected samples. His analysis of these specimens in London in 1953 coincided with my own examination of the evidence and doubtless influenced my concluding that Foote's hypothesis was correct. Zeuner's researches established beyond reasonable doubt that the ash was burnt cow-dung.[3] My own conclusions, which were embodied in my thesis in 1954,[4] were basically those of Foote, but it was possible to interpret the evidence in the light of the knowledge gained in our excavations at Piklihāl in 1952.[5] Against the picture which there emerged of the Deccan Neolithic as a cattle-conscious pastoral culture it was not at all difficult to see in the ashmounds the ritual burning of dung accumulated annually or over longer periods within the cow-pens. I further suggested that survivals of ashmound rites might be expected to occur in one form or another, and instanced the Holī bonfire in this context. This theory provided a good starting place for further field-work. The Deccan culture sequence was now firmly established and the pottery of each period easily recognized, thus the dating of the mounds could be settled once and for all. Further, one might hope to obtain evidence of the existence of cattle-pens, and perhaps also of the intervals which elapsed between burnings. Finally, I had hopes, if these were cow-pens, to capture the elusive hoof-prints of the cattle herded in them. The success of the operations may be judged by the extent to which they answered these questions.

[1] See Sir R. E. M. Wheeler, *Early India and Pakistan* (1959), p. 91. I am also indebted to Sir Mortimer for drawing my attention to the unpublished field-notes.

[2] Subbarao, unpublished Ph.D. dissertation, 1949, pp. 214–17.

[3] F. E. Zeuner, 'The origin of the cinder mounds of the Bellary district', *BIA*, II (1959), pp. 37–44.

[4] F. R. Allchin, 'The development of early cultures in the Raichūr district of Hyderabad', unpublished Ph.D. thesis for London University, 1954, pp. 402–17.

[5] Allchin, *Piklihāl Excavations* (1960), pp. 132–3.

CHAPTER 2

EXCAVATIONS AT UTNŪR 1957

1. GEOGRAPHY

The accumulations which are the subject of this work occupy a reasonably well-defined geographical area. It may well be that further search both in and around this area reveals new sites, but it is unlikely radically to change the distribution now revealed. This is to be expected when it is realized that the ashmounds are products of the Deccan Neolithic culture, often occurring at or beside Neolithic settlements, and that they are thus likely to share the same distribution as the parent settlements, from which groups of tribesmen must have set out to establish even the most isolated and remote of the mounds.

Our concern is therefore with that part of the central Deccan which we may name the Northern Karnataka region. This forms a separate geographical no less than cultural, linguistic and historical entity, and has been treated as such by several writers.[1] It is bounded on the west by the higher-rainfall belts above the Western Ghats, with their increasingly denser belts of forest covering; on the north by the limits of the Deccan trap rocks, which follow so strikingly the linguistic and cultural boundary between Marathi and Kannada language areas; and on the east roughly by the modern linguistic boundary between Telegu and Kannada (though not a few sites actually lie to the east of that boundary). Its southern boundary is at present vague and not easy to define: in general it corresponds to that which Richards proposed for his central and southern Deccan regions, that is to say it is largely a boundary drawn in terms of the increasing density of population towards the south.[2] What the significance of this concentration of Neolithic sites around the upper courses of the Bhimā, Krishnā and Tungabhadrā rivers may be we hesitate to say. It appears to be linked to climatic and geographical factors and to suggest a complete reversal of natural influences at different periods. Almost all the sites lie in a zone of less than 25 in. annual rainfall. In the centre of the zone the annual precipitation is actually less than 20 in. The southern extremities of the Deccan plateau around Mysore enjoy a somewhat higher rainfall (30–40 in.). Today this difference means that in the south the natural vegetation is thicker and the agricultural productivity cor-

[1] Cf. the Karnataka region in O. H. K. Spate's *India and Pakistan* (1954), pp. 655–61; F. J. Richards's classic 'Geographical factors in Indian archaeology', *Ind. Ant.* LXII (1932); B. Subbarao, *The Personality of India*, 2nd ed. (Baroda, 1958), ch. 2.

[2] F. J. Richards, 'Cultural drifts in South India', *Ind. Ant.* LIX (1930), p. 217.

respondingly higher; thus population is also somewhat denser than in the near-famine zone of Rayalaseema, whose aridity can only be overcome when the benefits of the Tungabhadrā dam and similar major irrigation projects make themselves felt. There is a suggestion that at the opening of the Neolithic period in the Deccan the rainfall was slightly higher than today, but even without this increase the two regions must have been sufficiently different.[1] The southern, being more heavily forested than the northern, would be correspondingly more difficult to clear for purposes of agriculture: the northern, being lightly wooded with scrub and thorn forest interspersed by areas of grassland, would have provided a more attractive habitat to newly arrived settlers in the shape of Neolithic pastoralists as they moved southwards from Mahārāshtra and beyond. The Late Stone Age hunting population already in the region must have been very small. Although during the Neolithic period settlements spread southwards into the southern Deccan around Mysore and eastwards to the lower Krishnā and the coast, there is not the same concentration of sites as in this parent region. Perhaps the balance only tilted in favour of the southern Deccan when iron tools and a plough-agriculture made possible more ambitious cultivation; but already by that time the cattle and more especially the sheep and goats of the Neolithic tribes would have ravaged the hills and grasses of the central Deccan, setting off a chain of progressive desiccation and deforestation, whose end-products are still with us and from which the natural covering of the region has never recovered.

The region we have thus defined forms in effect the central part of the valley of the river Krishnā with its tributaries the Bhimā, flowing in from the north-west, and the Tungabhadrā with the Hagari which flows into it from the south. This river system drains the central Deccan and carries its waters through a great gap in the irregular line of the Eastern Ghats into the Bay of Bengal. The river valleys are characteristically broad and shallow for they flow over a rolling peneplain of Archaean rocks, granites and gneisses, through which run broad bands of Dharwar schists and quartzes. The relationship of these rocks need not detain us, but the Dharwar bands appear as elongated synclinal outcrops or outliers in the gneisses, compressed and preserved in their synclinal troughs, and finally left to form the highest points of the landscape when the granites and gneisses have weathered away.[2] The monotony of the landscape is relieved by the numerous granite domes and groups of rocky hills, weathered with mural jointing into great heaps of boulders. As I have shown elsewhere, these hills were chosen by the Neolithic tribes for their homes. The covering of much of

[1] Allchin, *Piklihāl Excavations*, p. 130.

[2] D. N. Wadia, *Geology of India* (1939), p. 61; and various papers in *JHGS*, II, III and IV, pt. 1, where there is much discussion of these questions.

the region is of a thick deposit of black cotton soil, but this alternates with more sandy to loamy reddish soils. In general the Dharwar rocks produce the former while the latter are found on the peninsular Gneissic rocks, but also the black cotton soil tends to occur where the inclines are most gentle. Today each of these soils favours its own agriculture patterns, and to a certain extent also its own vegetation; and from this variation, combined with that of the topography, much of the local character springs.

The rainfall is almost all received in the months of May to September, but October and November rains are also not uncommon. The months of March to May are those of highest day-temperatures: the advent of the monsoon brings a considerable fall. Apart from the tiny strips of land irrigated by canals around Vijayanagara and Anegundi (and now of course augmented by the distributary canals of the Tungabhadrā dam), where rice and sugar-cane are grown, in recent centuries the main crops of the district have been millets, principally *jowār* (*Sorghum vulgare*) but to a lesser extent *bājrī* (*Pennisetum typhoideum*) and *rāgī* (*Eleusine coracana*), and cotton. To a lesser extent oilseeds have been grown, but these are almost certainly of very recent introduction.

The village of Utnūr lies in the eastern part of the Raichūr Doāb, about 23 miles south-east of Raichūr and seven north of the river Tungabhadrā. Formerly in the Hyderabad State, it is now in the Mahbūbnagar district of Andhra Pradesh. It is some $2\frac{1}{2}$ miles west of the market village of Īj, an ancient settlement of some interest. The ashmound is several furlongs from the village on the track to Idguanpalli. It is on a small outlier of Dharwar hornblende schist. The topography is remarkably open. The nearest hills of any size are 10 miles to the north, while southwards there is a level plain until the fairly rapid descent to the Tungabhadrā valley which lies some 100 ft. below. The surrounding soil varies, in places being a reddish-brown loam inclining to sandiness, and elsewhere approaching a black cotton soil (Pl. 1*a*). The nearest stream is a tributary of the Īj nallah, it flows only during the monsoon but is a source of more or less perennial water in pits dug in its bed. The area is today known for its *tāḍī* and *saindhī* palm trees and for the toddy they produce.

In 1957 no Neolithic sites were known in the Doāb east of Raichūr, although several were reported from the south of the Tungabhadrā in Bellary and Kurnool districts, and Munn had recorded three other ashmounds whose ages were then not established. These are at Machanpalli 4 miles north-west of Utnūr, where a couple of much-eroded mounds lie on either side of the track; and on the track from Talmari to Kutuknūru, about 10 miles south-west of Utnūr near the banks of the Tungabhadrā, where a larger mound exists (these sites will be described in chapter 4 below). Along the south bank of the river,

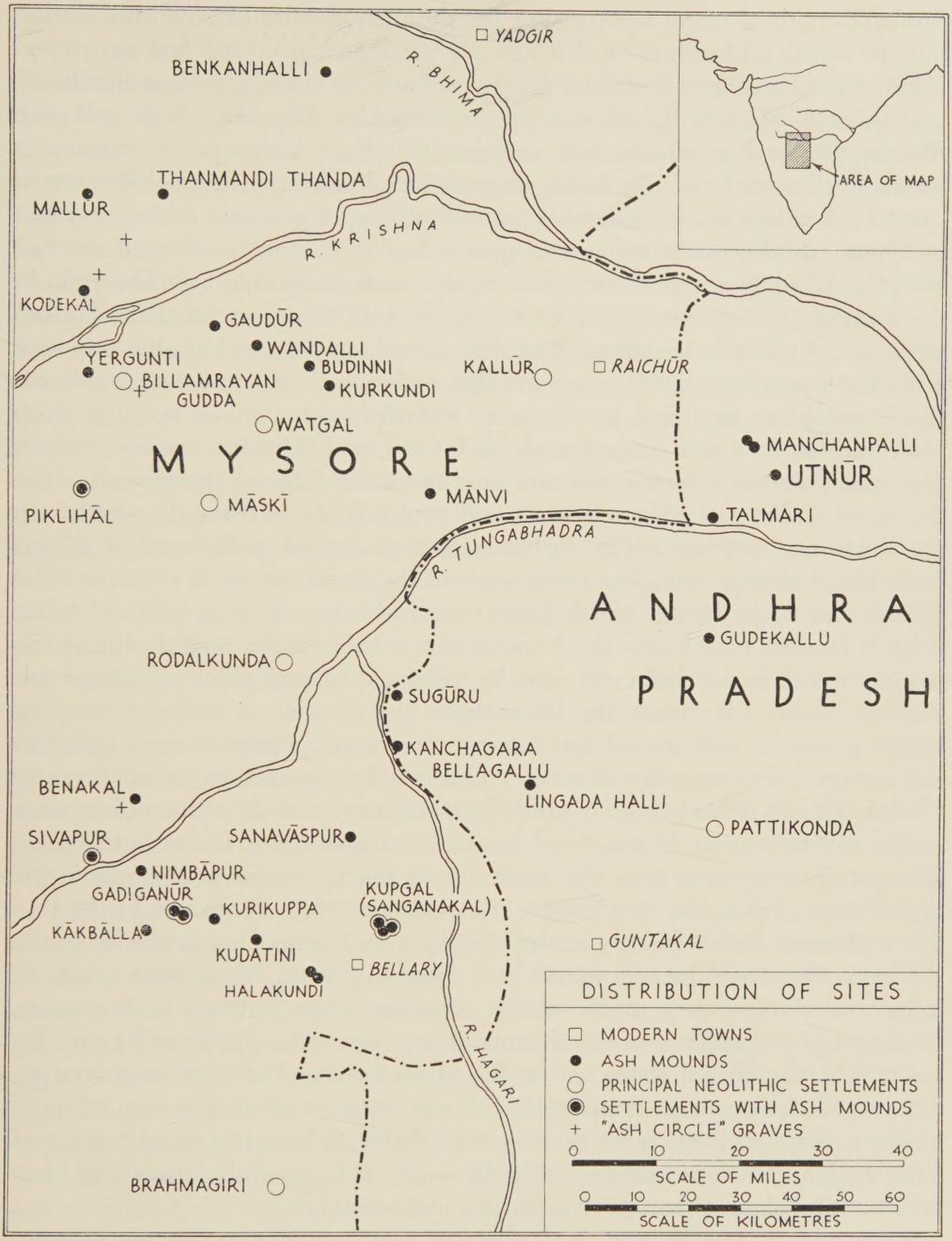


Fig. 1. Map: distribution of ashmounds and main Neolithic sites.

Subbarao noticed many factory sites for the manufacture of Neolithic blades, but no actual settlements of that age are yet reported.[1] Our first activity at Utnūr was to explore the vicinity for signs of ancient sites. The most significant is at Īj itself. Modern Īj, variously pronounced Aija, Aiji, Avaj, Avaji, and even Auji by the local population is a considerable village with a police-station. It stands on the banks of the nallah we mentioned above. In the south-eastern part of the village is a considerable mound, oblong in plan and some 200 yards in length. Its height in the centre approaches 25 ft. On the mound are two temples. The more modern structure on the western part has a *garbha-griha* in the form of a pit of about 15 ft. in depth, the icon being placed at the bottom of the pit. I take this to indicate that the original temple stood on this very spot when the mound was much lower, and that as the depth of occupation increased, the actual place occupied by the icon was maintained at its original level. However, the icon now in the temple, as far as I could observe, was not ancient. The other temple is to the east and near the south edge of the mound. It is dedicated to the god Mārtaṇḍeśvara and probably dates from the twelfth to the thirteenth centuries. The shrine contained several good icons of Sūrya, probably of similar date. The lower parts of the structure are of stone, but the *śikhara* and vaulted gable which formerly projected in front of it are of burnt brick.[2] Immediately below the foundations of the temple, on the side of the mound where it has been cut into by villagers, several older structures are visible. About 4 ft. below the foundations the remains of well-cut masonry blocks protrude, and several feet lower masonry of a different kind indicates the presence of a yet earlier structure. This may be expected to go back to early Chalukya times if not before. Finally, near the bottom of the section there were visible several courses of sun-dried bricks, a material rarely found in this area. The pottery fragments from this section were mainly medieval D wares in the upper levels, but in the lower, red B ware was plentiful. From this I infer that the settlement at this point goes back at least to the opening centuries of the Christian era, when the area would have come within the Sātavāhana sphere of influence. Several very much smaller mounds, some furlongs to the south, produced more evidence of settlements of that age, with sherds of B 1 and B 3 red and black-and-red wares and of B 2 painted ware. The high neighbouring mounds of sterile soil are connected with salt extraction and appear to be quite modern. Utnūr village is in no way remarkable. There is a good temple of Vijayanagar date near which two gold coins were recently discovered, but otherwise no signs of antiquity were encountered there.

[1] Subbarao, unpublished Ph.D. dissertation, 1949, pp. 92–8, quoted with permission.
[2] Allchin, *Utnūr Excavations* (1961), pls. 2*a* and 2*b*.

2. THE SITES

The first report of the ashmound was by Munn,[1] where it was associated with the village of Idguanpalli, but as it lies wholly on the lands of Utnūr village we have seen fit to rename it. It lies north of the track from Īj to Idguanpalli, where it has cut deeply into the surrounding land (Pl. 1*b*). When this cutting was enlarged in recent years whole vessels of red pottery are said to have been found, and to this day the sides produce copious sherds of B 3 red ware. These are found too in the fields to the south and must indicate a small settlement like those near Īj and of similar date, that is, of the opening of the Christian era. The ashmound is roughly square, some 200 ft. along either side (Fig. 2). On the west it terminates in a modern boundary fence, and on the south there is a shallow depression. The main part of the mound is less than 3 ft. high, but in the south-west it rises to some 10 ft. The greater part of the mound is under cultivation and it is recalled that it formerly lay waste until some sixty years ago when it was cleared for cultivation. This clearing must have caused considerable damage to the upper strata of the mound, for piles of hard ash are to be seen scattered along the boundaries of the field and piled on the highest part, and each year the damage is increased. The owner recalls that formerly the perimeter of the mound was surrounded by 'walls' of hard ash some 3 ft. high, but these have now almost disappeared. On my first visit, the surface produced many sherds of B 3 red ware and some of B 2 painted ware. This seemed to indicate a post-Neolithic date for the mound, as no Neolithic pottery was discovered. But on the same occasion a much-worn stone axe was found by the track about a mile to the east and this omen encouraged further work, as it was almost the first object of Neolithic type to be found in this part of the Raichūr Doāb.

Another reason for pursuing our work was that Utnūr alone of all the mounds we had visited was largely covered by a mantle of soil, and thus in spite of the villagers' activities it was better protected than many other mounds. The absence of Neolithic pottery seemed a challenge to our hypothesis that the mounds were Neolithic accumulations. Hence we approached the excavation with the purpose of testing the hypothesis of Foote as modified by our work in 1951 at Piklihāl. The work we planned was on a small scale and it was not intended to uncover the whole mound. Instead our aim was to discover the sequence history of the outer edges and to relate it to that of the centre. Three main cuttings were made with three smaller extensions. The cuttings were named Sites I, II and III and each was divided into squares labelled with a letter of the alphabet. Site I was basically 45 ft. square with two extensions:

[1] L. Munn, 'Archaeological finds in the eastern portion of the Raichūr Doāb', *JHGS*, III, pt. 1 (1936), p. 77.

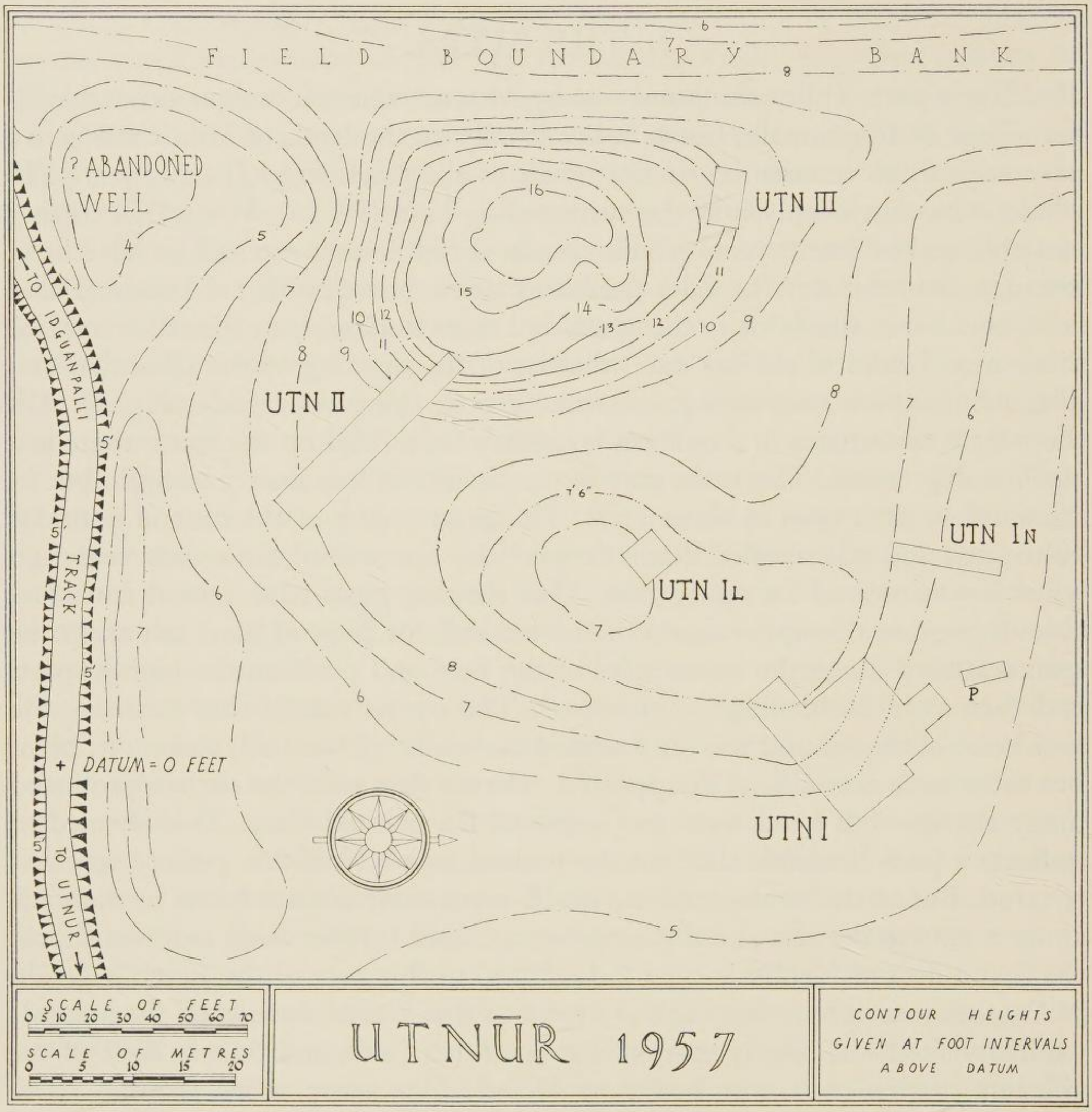


Fig. 2. Plan of Utnūr ashmound.

UTN I N, a trench of 32 ft. by 5 ft.; and UTN I L, a 9 ft. square near the centre of the mound. Site II was a trench on the south of the mound, 70 ft. by 9 ft., designed to cut into the highest part of the site; and Site III was a small trench on the north of the highest part (see Fig. 2).

Site I

The site was excavated in 9 ft. squares and after it became apparent that the strata could be traced over the whole site the layers were systematized. Thus

there are two numbers for each layer, a field number (which is that registered upon the actual finds) and a final number, which is that used throughout this report (see Figs. 3, 4 and 6). The squares are shown in Figs. 17–20.

Layer 1, humus, extended across all of Site I. It was mixed with small quantities of ash and produced small numbers of sherds of B 1, 2 and 3 wares, mainly red in colour. These were more frequent in the vicinity of the pit in squares B and C. There were scarcely any other sherds, either Neolithic or modern, and few other finds. When the humus was removed several features were revealed which represented the latest occupational activities on the site. The first was a broad shallow pit in squares B and C, which contained a large quantity of pottery, illustrated in Figs. 9 and 10. The ware was mainly B 3 red and B 2 painted, and it included the black-and-red sherd painted with a circular design, evidently similar to that imitating the Rouletted ware of Kondāpur and Chandrāvalli (Pl. 6*b*). This assemblage provides a terminal date for the occupation in the first two centuries of the Christian era. To a like date may be assigned the little trench 1 of which traces were found in squares H and G, but nothing can be said of its function. Slightly harder to date is trench 2 in squares J, K and M. The filling of the trench contained only Neolithic sherds and must belong to a much earlier date, but the upper filling which sealed the trench and which was visible on the surface of Layer 2 contained B ware pottery and may be contemporary with the filling of trench 1.

Layer 2 was a mixed ash and soil. In some places the two constituents were present in unmixed forms, in others they were mixed. They seem to represent the accumulations of a long period, the ash when *in situ* being the remnant of the final burning, after which the soil accumulated. The mixed portions result from the continued human interference with the site between the final burning and the making of the early historic pottery pit and trenches, and even after. The layer witnessed the beginning of the differentiation noticed in many of the succeeding layers between those which lay within the perimeter of the mound and those that lay without. The ash component is most common in the inside squares, where it is often present *in situ*, in the centre of the site it is present in both derived and original conditions, while on the outer side it is least common. The derived ash appears to be due to the various robber activities and other sorts of human and animal interference. The ash itself contained no cultural debris, but the soil component contained a few sherds: these too were very mixed in age, some being of medieval D ware, others of Neolithic A ware. There were also a few B ware sherds. The ash is thickest in squares D, F and H and it may fairly be inferred that the deposits here represent the remnants of what we shall meet again below in Site III and may name the 'ash wall'.

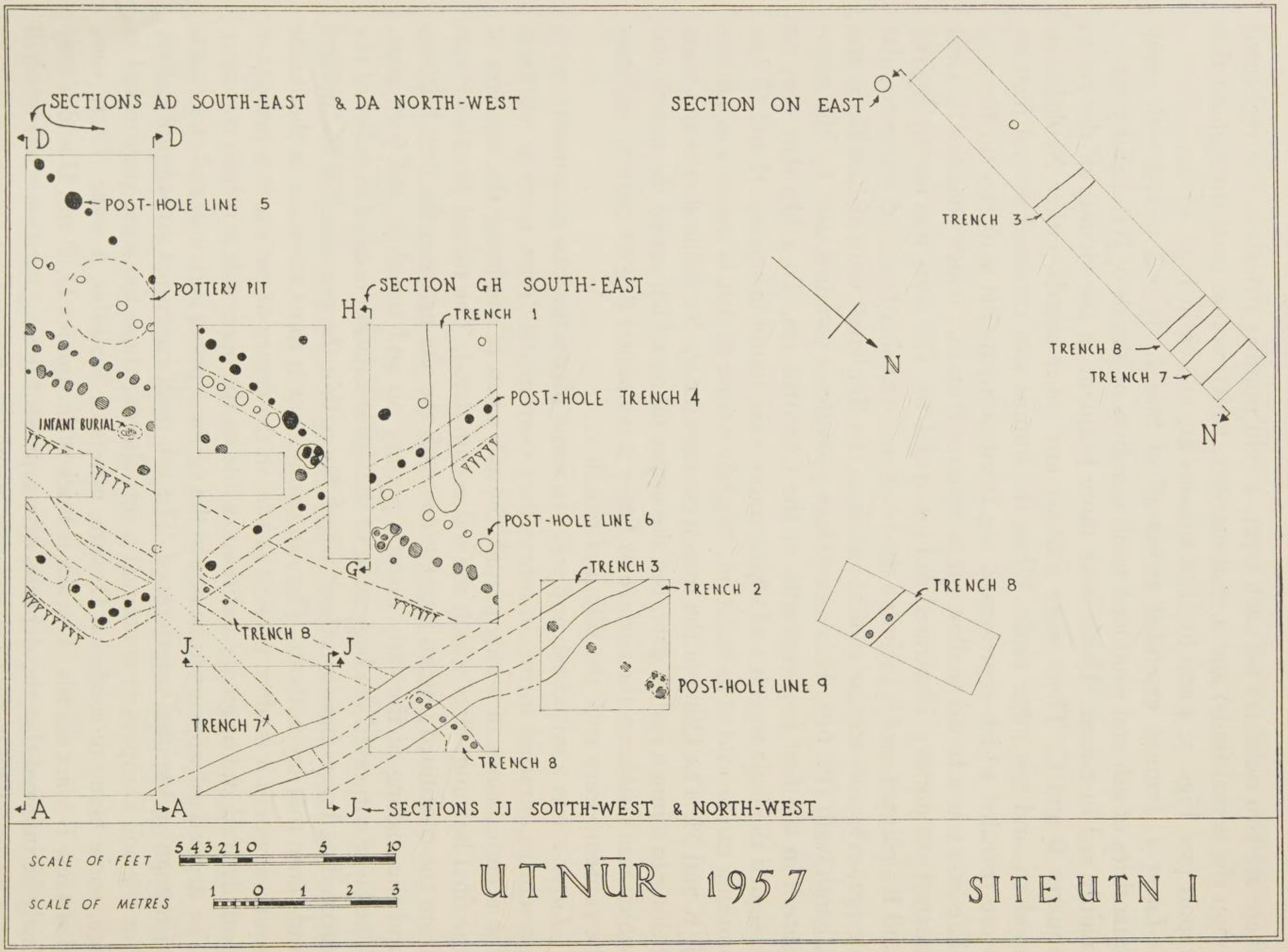


Fig. 3. Utnūr, Site I: plan.

Layer 3, clay bank, is a compact clay of brown colour. It is most clearly defined in the squares representing the edge of the mound where it becomes hard and pitted with hoof-impressions. The surface shows traces of burning and there are pockets of *in situ* ash still remaining. In squares C, D and F the layer reaches maximum thickness, rising steeply to form a broad bank. On the outer face of the bank were a number of holes which appeared as the relics of small sticks, probably the long-vanished basis of a thorn-hedge. The highest parts of the bank were scarred by recent digging, during the clearance of ash. Inside the bank the clay is thinner, being in places less than 6 in., but it retains its compacted nature and burnt coloration. The layer produced very few finds: in the clay itself were only sherds of A ware, but several B ware sherds also occurred. These were discovered in small pockets or burrows in the clay and it was found that in every case they appeared to derive from the silt filling small rodents' burrows. A similar phenomenon is observed elsewhere in the site and it must be invoked to explain the odd sherds of B ware recorded in this and the subsequent layer.

Layer 4. Under the clay bank there were a number of thin residual deposits of ash. These occurred only in squares F and H inside the mound. The surface of the next layer (5) was burnt over a far wider area and it may be inferred that the ash originally extended beyond its present limits and was removed when the clay bank was laid down.

Layer 5, white-flecked make-up, has a hard trampled surface, scarred with the impressions of the hoofs of cattle. The layer consisted of a fine compact grey-brown soil with a characteristic admixture of flecks of white. It produced only Neolithic finds including a few sherds of A ware and fragments of chert and basalt. There were also some animal bones. On the surface of the layer and sealed by the ash (Layer 4) and clay bank (Layer 3), several structural features were revealed.

Around the contour of the mound, in squares A, J, K and M, was trench 3. This cut deeply down into the underlying moorum, and heaps of orange-coloured spoil from the digging still lay on the old surface on its south side. The filling of the trench contained charcoal and cattle bones as well as fragments of A ware and in the bottom pieces of gneiss, probably the packing for the uprights which it once held. It measured 18 in. in width and 3 ft. in depth. About 15 ft. south and running parallel to it was another trench (4) (Pl. 2*a*), which followed a generally west–east line through squares H and E before turning sharply to the south. This trench was not so deep as the previous one but it contained the impressions of a regular series of post-holes, spaced at intervals of 4 ft. with somewhat shallower impressions between them (Pl. 2*b*). The old surface between the trenches was strewn with occupation debris including cattle

bones. Inside the line of post-holes this debris was absent, its place being taken by the ash layer (4). A further structural feature was post-hole line 5 which ran in a southerly direction some 18 ft. west of the main stockade. Here too there is an alternation of heavier and lighter posts, varying from 9 in. to 4 in. at intervals of about 18 in. Several other post-holes on the same surface appear to represent internal subdivisions of the enclosure. At the junction of post-hole line 5 and trench 4 there was a great triple post-hole.

Layer 5a. In a small area of squares B and C Layer (5) was subdivided and under another burnt surface a similar soil occurred, apparently as a further make-up in that part. When these layers had been removed they revealed a shallow cut about 6 ft. wide and 1 ft. deep which exactly anticipates the line of post-hole trench 4. This appears to have been a marking-out trench which was masked subsequently by the make-up Layer (5), the deposition of which certainly preceded the erection of the structures we have just noticed.

Layer 6 was a soft friable white, grey and cream ash, lying *in situ* above a burnt surface. It was thickest in square D and again in square B, but did not appear outside the shallow cut, whence it had probably been removed at the time that the cut was excavated. That it originally extended farther to the north and west may be inferred from pockets of residual ash sealing the filling of trench 7. We may infer that originally this trench represented the outer boundary of this layer. The ash was typically devoid of cultural debris.

Layer 7, speckled make-up, was a thin layer of characteristically yellow speckled soil, whose surface was deeply burnt and extremely hard. It has every sign of continuous trampling by cattle. The surface bore imprints of a shaft of timber and of a half-section of split bamboo. The layer contained Neolithic A ware sherds, charcoal and fragments of cattle bones. Associated with this surface were two structural features: post-hole line 6, a somewhat irregular line running across squares F, G and D, again with indication of smaller post-hole lines inside it; and some 15 ft. to the east, beyond a slight dip in the surface, trench 7. This contained no trace of post-holes, but was filled with a typical occupation debris with A ware sherds, silica flakes and charcoal. The debris occurred in the layer also mainly between the outer and inner trenches.

Layer 8 was an ash layer of dark grey-brown hue occurring only inside trench 7 and about 1 ft. in depth. Beneath it was another hard surface with further associated structures (Layer 9).

Layer 8a was only found outside trench 7 and took the form of a light mottled soil whose surface had been trampled and burnt. In places on its surface, particularly on the rim of the trench, it was covered by a thin spread of speckled make-up (Layer 7). It contained typical cultural debris, Neolithic A ware

sherds, stone flakes, bones of sheep, goat and cattle, etc., particularly in squares A, B and J.

Upon the surface revealed by the removal of the previous layers several new structural features were discovered. The first was trench 8, which in places seemed to cut through Layer 8 and in places to be sealed by it. The explanation of this perplexing feature must be that the trench was cut to receive posts and then the material which now constitutes the ash, Layer 8, accumulated around the palisade. Finally, before burning, the posts would be in some cases pulled out, in which case the surrounding dung would appear to seal the trench, and in others burnt while still in position, thus leaving a charred stump amidst the ash. In the present instance the impressions of the posts were clearly visible. The trench runs through squares B, E, K and M, and the posts were evidently of about 8 in. in diameter. On the same line was post-hole line 9, comprising a double row of large post-holes, those of the outer row being slightly smaller (Pl. 2*c*). The average depth was 1 ft. 3 in. and the thickness between 9 and 12 in.

Layer 9, in which these structures were excavated, was a thin levelling of brown soil occurring only inside post-hole line 9. In its surface, just outside the palisade, was a shallow grave containing the much-damaged bones of a newly born infant. The layer also contained several fragments of pottery. It thickened-up in squares G and H to form a low bank (see Fig. 6, section GH). Its surface was heavily compressed and burnt. Outside the palisade a similar layer was found, but less heavily burnt or trampled, this was excavated as Layer 9*a*.

Layer 10 was a small pocket of ash lying beneath Layer 9 in square D. Although so limited it must represent the residue of a once-larger burning, for the surface of Layer 11, both beneath it and elsewhere, is also burnt (Fig. 4, section AD).

Layer 11 was a light loamy soil, burnt and with hoof-impressions. It contained a quantity of sherds of A ware, and bone and charcoal fragments. It is found mainly inside the mound, not generally occurring outside post-hole line 9 but sometimes spilling over trench 8.

Layer 11a was the filling of a shallow trench, of 8–9 ft. in width, cut in the natural soil on much the same line as trench 8. It consisted of a red sticky soil containing many sherds, charcoal and bone fragments and other traces of occupation (Fig. 4).

Layer 12 occurred only within the shallow cut referred to above, it represented an accumulation of unburnt matter prior to the cut being made, and was itself cut into. The surface was highly vitreous and compacted and covered with hoof-prints. Beneath the layer was a dark greenish sticky soil yielding few finds.

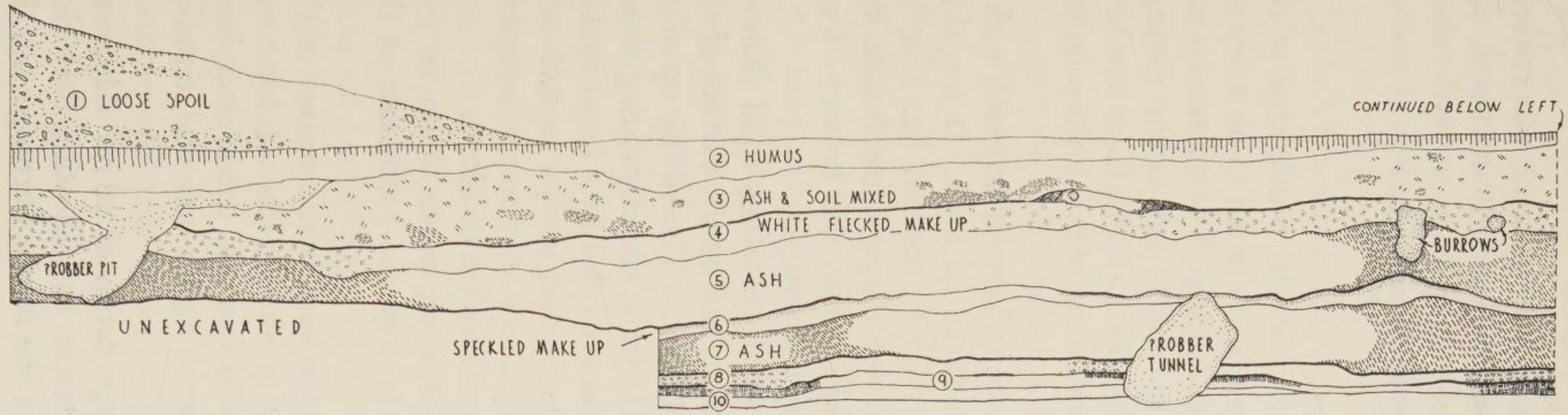
Under this layer and the overlying layers where it was absent was the hard orange moorum which had formed the natural soil. This had been cut into by the cut and some of the deeper trenches of later periods.

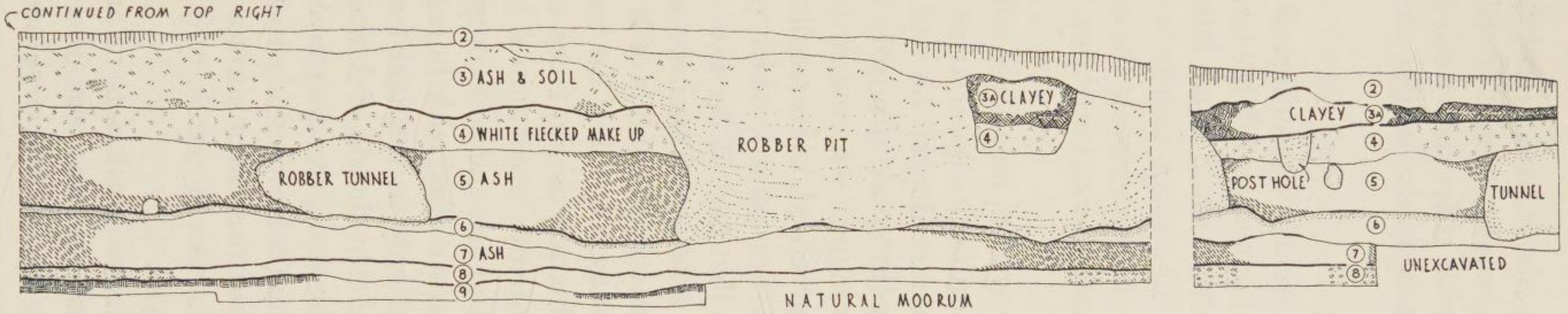
Extensions to Site I

Pit I P. This small pit lay outside the mound, and in it the sequence of strata was greatly curtailed by the southerly shift of the mound during the later phases of its occupation. The only structural feature was a trench which can be identified with trench 8, although its direction presupposes an unexcavated angle to that trench.

Pit I N. This pit was cut across the side of the mound 40 ft. west of the main digging (see Figs. 2 and 6). Here too the sequence was similar to that of Site I, but much attenuated, particularly on the outer side. Thus Layer 3 tailed away in about the middle of it, so that trench 3 appeared only on the surface of Layer 5 sealed by Layer 2. Layer 5, which had a depth of about 1 ft. at the south end of the pit, tailed right away before the north was reached. So too did the ash, Layer 6. In distinction Layer 8, here also ash, but with a hard trampled surface, extended out to beyond the northern limits of the trench: thus indicating the changed outline of the earlier periods of the mound. A post-hole was found in its southern surface, contemporary with that of post-hole line 6. Two overlapping trenches which ran across its northern end can be confidently identified as trenches 7 and 8. Layer 9 also rose gently from the south and together with Layers 10 and 11 continued out beyond the northern face of the pit.

Pit I L. The third extension to Site I was a single 9 ft. square in the centre of the mound, midway between Sites I and II. The sequence of layers relates exactly to those of square D and thus the same layer numbers are used in describing it. In this pit for the first time the extent of robber activities becomes apparent. Here these activities must have been the work of burrowing animals, probably porcupines, and they penetrated to nearly the bottom of the pit (Fig. 6). Layer 2 had been cut into by these burrows which ran out from a broad shallow pit, possibly of human origin. Both the layer and the pit contained sherds of B 1 and B 3 red ware. From the surface of the layer came too a fragment of a red-polished ware sprinkler, of a well-known type. Also from the pit came several bone fragments and one of deer horn of an unidentified species. The lateness of filling of at least parts of the pit is indicated by the presence of sherds of brown D ware in its contents. These cannot well be earlier than the second millennium of our era. Layers 6 and 8 are present in the north-west quarter of the pit, and are both typical thick ash deposits obviously burnt *in situ*. Layer 12, which on account of its hardness, and of the protecting





UTN II: NORTH-EAST SECTION

UTNŪR 1957

SCALE OF FEET 1 0 1 2 3 4 5 6 7 8 9 10

SCALE OF METRES 1 0 1 2

Fig. 5. Utnūr, sections of Site II.

hardness of Layer 11 above, had been left untouched by robbers, was covered with clear hoof-impressions. Some of these were cleaned and cut round, and after impregnation with polyvynol were lifted and taken back to Hyderabad. These prints thus belong to the earliest occupation of the site (see Pls. 4*b* and 5).

Site II

The second main trench was designed to cut across the south edge of the mound, taking in its highest part. This however was soon found to be a deposit of loose sterile earth and rock of much later date and this part of the trench was thus not continued. The main trench cut into the inner part of the mound, reaching at its south-eastern extreme the outer edge (Pl. 4*a*). The layer numbers here have not been brought into correspondence with those of Site I, the originals being retained.

Layer 1 quickly proved to be a loose filling of stones, gravel and soil, with a slight humic formation on its outer crust. It produced no finds. It was thus established that the entire deposit on and above the 9 ft. contour line (Fig. 5) was some sort of recent spoil, probably from a well-digging just beside the southern edge of the mound where a small depression may still be seen. Certainly this view was accepted, even recollected, by the villagers.

Layer 2 was the earlier humus, which passed under the stony spoil without any differentiation in that part of the site. Beneath it, and on the surface of the next layer, appeared a series of burrows and robber pits. The silting up of all of these produced many further finds of B 1 and B 3 ware, thereby dating them. Almost all the south-eastern end of the trench was occupied by a great robber pit, undoubtedly of human origin, from which larger and smaller tunnels and burrows ran off. Numerous small animal bones were recovered in this complex.

Layer 3 was a typical ash and soil comparable to Layer 2 of Site I.

Layer 3a was a brown clay with burnt surface, comparable to Layer 3 of Site I. It was found only in residual form in the extreme south-east of the trench, and produced two sherds of A ware.

Layer 4. Under the two preceding layers was the hard burnt surface of the white-flecked make-up (corresponding to Layer 5 of Site I). The ash layer was not found above it, but the burnt surface gave evidence that it had once been present. In the south-eastern extremity of the trench a post-hole was found in the surface of this layer.

Layer 5. The underlying ash was of an average depth of 18 in. Although throughout sterile, its colouring was of some interest, as indicating the firing conditions and giving proof, if it were needed, of the *in situ* burning. On the surface the ash is white-grey of powdery texture, under about 2 in. it darkens

to alternating bands of grey and brown, and below to yellow-buff, still of powdery texture. About 9 in. from the surface there are further changes, with coarser texture and pale grey or blue-white hues, and finally in the lower levels it turns again yellow-buff, darkening and incompletely fired along the margin of the next layer (see Pl. 3).

Layer 6 was a characteristic speckled make-up, with hard burnt surface and rarely more than 3 in. in thickness. It produced its small quota of Neolithic A ware sherds. Evidently its thickness was such that neither human nor animal diggers had cared to penetrate it, for few burrows were found below this level.

Layer 7 was another ash layer corresponding to that of Site I.

Layer 8. Beneath a hard burnt surface was a compact brown soil corresponding to Layer 9 of Site I. It produced, particularly in the south-east extremity, typical Neolithic occupation debris.

Layer 9 corresponded to Layer 12 of Site I.

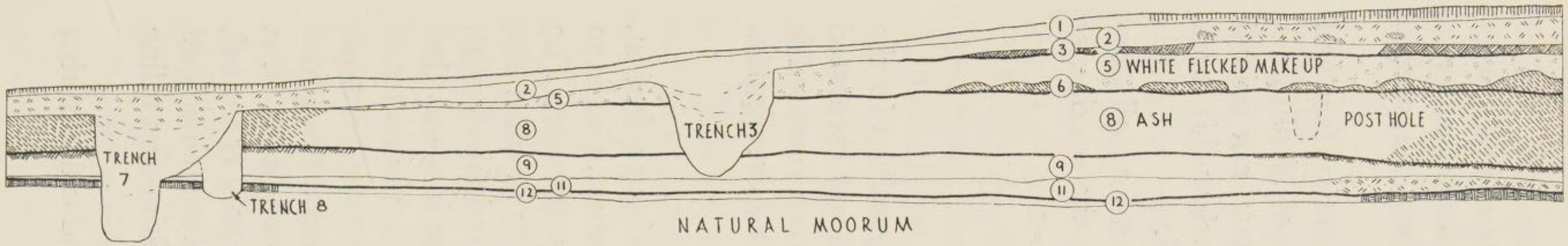
Site III

The third site was at the northern end of the spoil-heap described in the opening paragraphs of Site II. Only one pit of small dimensions was excavated at the very end of the digging operations at Utnūr. The sequence revealed is basically similar to that of Site I, but certain new features demand description. The notable layers are described below (see Fig. 6).

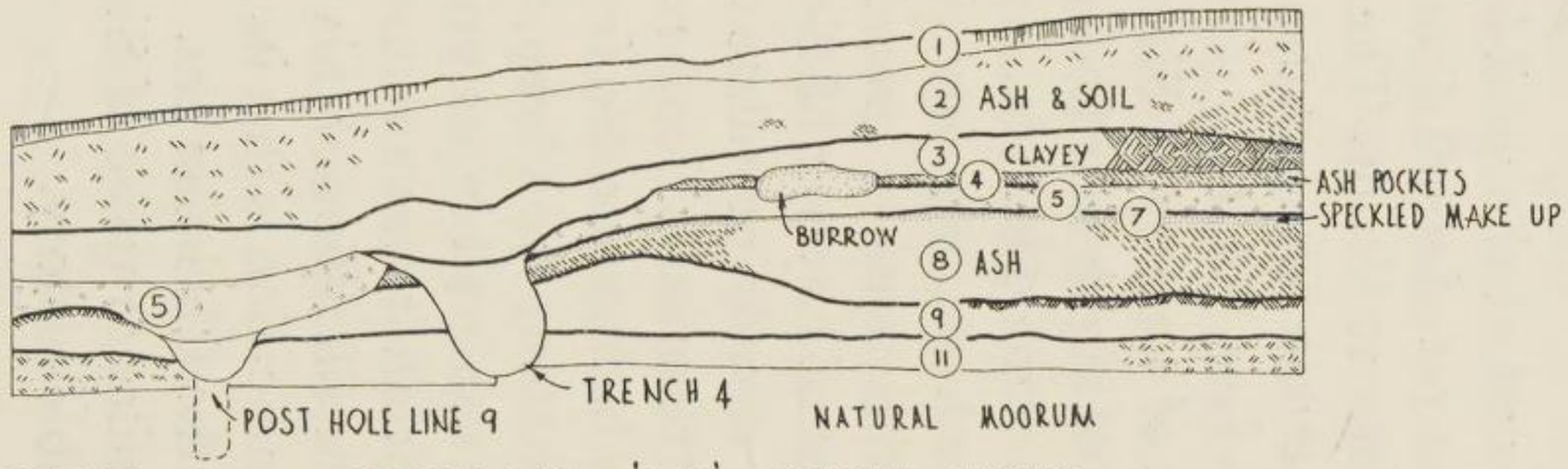
Layer 1a, loose spoil, similar to that of Layer 1 of Site II.

Layer 2a. This was a unique deposit of highly vitrified ash of about 2 ft. 6 in. in depth and with a flat regular surface some 9 ft. 6 in. above datum, that is to say fully 2 ft. higher than any other ash deposit surviving on the site. The stratigraphical position indicates that this mass of greenish-grey vitrified ash may be equated with the ash component of Layer 2 of Site I, particularly with the 'ash wall' whose removal we have already postulated. Here it seems that this feature, which ran, according to our reconstruction, around the perimeter of the mound on the crest of the bank, has been protected from the recent inroads of the farmers by being enveloped in the stony spoil heap, and thus it can afford some clue to the size and shape of the ash wall in its pristine condition. Cut through the hard ash and the layers beneath it was a remarkable robber tunnel, over 4 ft. in height and 3 ft. in width. The silt filling of this tunnel contained odd examples of B 3 red ware, and thus the indication is that its excavation and filling took place by the opening centuries of the Christian era.

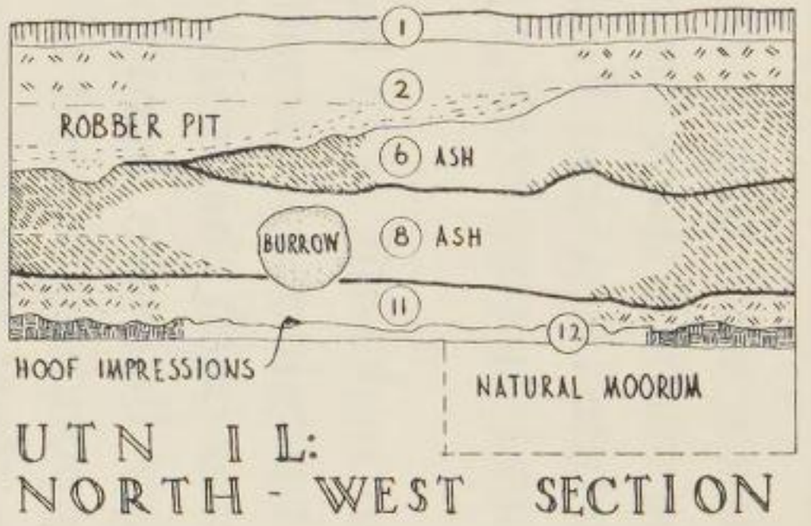
Layers 3–8 were present in forms similar to those of Site I and indicate that the mound at this point had a comparable history.



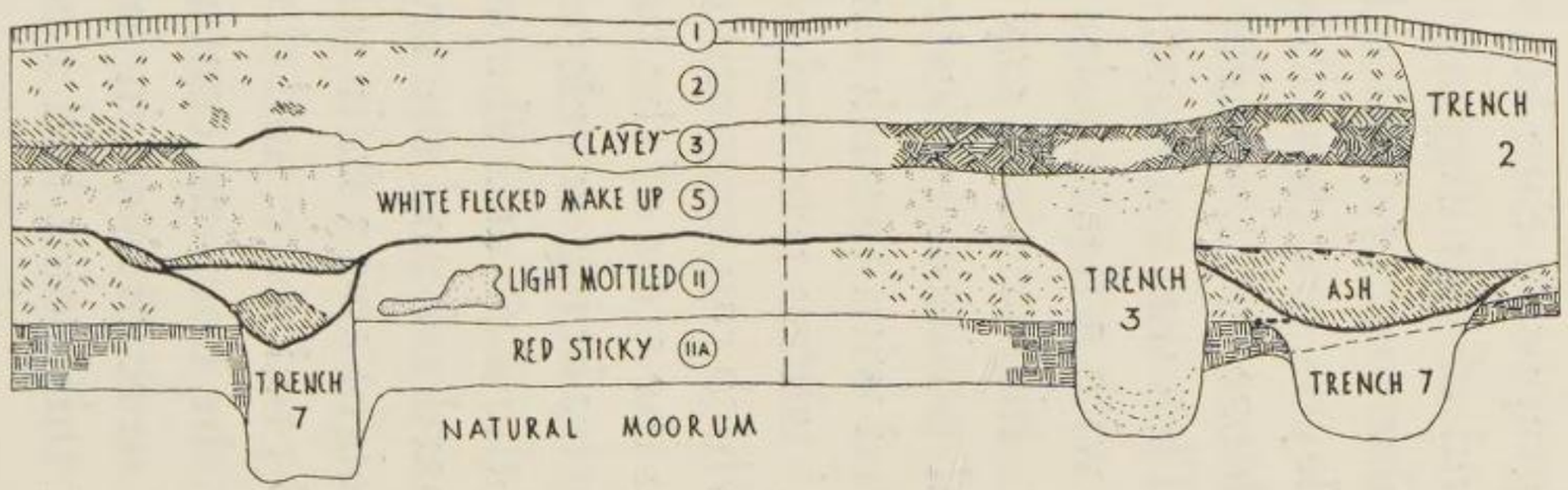
UTN I : SECTION 'ON' EAST



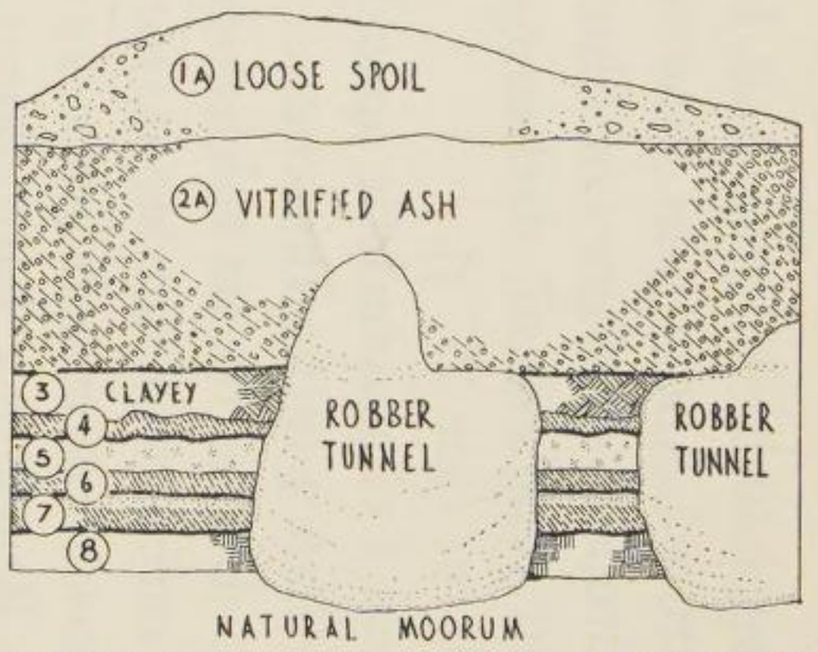
UTN I : SECTION 'GH' SOUTH-EAST



UTN II: NORTH-WEST SECTION



UTN I : SECTIONS 'JJ' SOUTH-WEST & NORTH-WEST



UTN III : SOUTH SECTION

UTNŪR 1957

Fig. 6. Utnūr, sections of Sites I, I L and III.

3. CORRELATION OF THE LAYERS FROM THE THREE SITES

We may now with some confidence correlate the evidence of the three sites and therefrom prepare to reconstruct a coherent account of the history of the mound.

Layer	Site I	Site II	Site III
Loose spoil	—	1	1*a*
Humus	1	2	—
Ash and soil	2	3	2*a* (vitrified ash)
Clay bank	3	3*a*	3
Ash	4	—	4
White-flecked make-up	5, 5*a*	4	5
Ash	6	5	6
Speckled make-up	7	6	—
Ash	8, 8*a*	7	7
Light-brown soil	9, 9*a*	8	—
Ash	10	—	—
Light loamy soil	11	9	8
Red sticky soil	11*a*	—	—
Dark sticky soil	12	10	8
Natural moorum	—	—	—

Interpretation of the strata as periods of occupation

In chapter 8 we shall attempt to reconstruct the history of the site, basing ourselves upon the excavation we have just described. As a matter of convenience, in order to make clear the analysis of finds in the following chapter, we shall here summarize those conclusions (see Figs. 17–20).

The occupation of the mound commences with rather shadowy activities in Period I A and culminates in the making of a shallow cut marking the area of the first enclosure. Period I B is also somewhat indefinite but it contains evidence of what must have been the first ash formation on the site. Period I C marks an important stage in the structural history, with the excavation of the post-hole line 9 and, slightly later, of the trench 8. The period ends with the first major burning of the site, a burning which is in evidence in all the excavated areas. Period II A begins with a levelling layer followed by a new post-hole line (6) and is followed, perhaps immediately, by a new trench (7) just outside the post-holes. The period ends with evidence of another burning. Period III A introduces certain novel features in the design of the structures. It witnesses a new levelling followed by a new line of post-holes (trench 4 and post-hole line 5), followed shortly by another trench (3). Above these layers there was evidence

of a further burning. Period IV opens with a new levelling and the laying down of a clay bank. There follows a new period of occupation and a further, final burning. Thereafter the site seems to have been abandoned for some time until Period V when a long series of robber trenches and animal burrows begin to appear. These are widely situated in time, some seeming to be earlier than the early historic period, others to date from the opening of the Christian era and others from more recent centuries.

CHAPTER 3

OBJECTS FROM THE EXCAVATIONS

The excavations at Utnūr produced very few and poor finds when they are compared with those of excavations of Neolithic settlements such as Brahmagiri or Piklihāl. This is doubtless owing to the temporary nature of the occupation, being as we shall see little more than a seasonal camping-site. On the other hand the objects suffice for purposes of comparative dating with the known assemblages, and this we shall attempt to discover. Because the finds of all categories, both Neolithic and Early Historic, show such a consistent correspondence with those from Piklihāl, and because the excavations at that site have now been fully published, we shall make constant cross-reference to them. Indeed this chapter will be in many respects incomplete in the cultural information it supplies, and further information upon this topic must be sought in the earlier excavation reports, particularly in my *Utnūr Excavations* (1961).

1. POTTERY

The classification of the pottery follows the lines I adopted for the pottery from Piklihāl, being classed according to its fabric in similar categories of ware. Each main ware group is prefixed by a letter indicating a broad technological division. Within the groups further individual wares are then recognized by the use of a number. Thus the letters A, AB, B, etc., signify Neolithic, Late Neolithic, and Iron Age to Early Historic groups. The individual wares are then differentiated with numbers as A 1, A 1 rusticated, A 1 incised, etc. The following table indicates the main varieties of pottery so far recognized in the Raichūr Doāb. This nomenclature is used throughout the present work.

Ware	Culture sequence	Varieties	Short description
A 1	Lower–Upper Neolithic	Grey, black, buff	Hand-made, without burnish
A 1	Lower–Upper Neolithic	Incised	Hand-made, without burnish
A 1	Lower–Upper Neolithic	Perforated	Hand-made, without burnish
A 1	Upper Neolithic	Surface roughened, rusticated	
A 2	Lower–Upper Neolithic	Grey, black, buff	Hand-made, burnished
A 2	Lower–Upper Neolithic	Ochre painted	A post-firing wash of red ochre has been applied

Ware	Culture sequence	Varieties	Short description
A3	Mainly Lower Neolithic	Red, black, chocolate, brown ochre	These colours are those of the distinctive dressing applied to the ware, hand-made
A3	Mainly Lower Neolithic	Painted	With purple ochre paint, applied before firing
A4	Upper Neolithic	Grey, buff, mottled	Burnished, often turntable-made, surface-fused
A5	Upper Neolithic	Grey, buff, olive green and black	Burnished, often turntable-made, approaching red-and-black ware
AB	Late Neolithic–Chalcolithic intrusion	Painted	Buff or red slipped, wheel-thrown, unburnished ware with purple ochre paint
B1	Iron Age	Black-and-red, red, black	Burnished, often turntable-built, sometimes wheel-thrown, 'Megalithic' ware
B2	Early Historic	Black-and-red	White clay pigment under russet dressing, 'Andhra painted'
B3	Iron Age–Early Historic–Early Medieval	Red, black, black-and-red	Wheel-thrown, not burnished
B3	Early Historic	Rouletted imitations	
B4	Early Historic–Early Medieval	Red	Without slip or burnish, wheel-thrown
C1	Early Historic	Rouletted ware	
C2	Early Historic	Red gloss, red polished	
D1	Medieval–Modern	Black, grey, buff, brown	Unburnished, wheel-thrown, made by existing traditions

The Neolithic Pottery

The Neolithic pottery belongs to that craft tradition for which we have used the term 'A ware'. This tradition, in its several parts, as yet not fully analysed or distinguished, may be recognized in the surviving fragments found at many sites in the region, and it may be seen in more complete form in the analysis of the larger numbers of sherds from Piklihāl. Here at Utnūr the small number of sherds and perhaps other restricting factors make the picture less complete.

Body clay. The sherds are mainly of coarse gritty clay, probably derived from a local source. Less care seems to have been taken in preparing the clay than in the case of many sherds from Piklihāl. A very small number of sherds are of much finer clay and these would appear to have been imported from some other site. Generally the sherds of A1 and A2 ware are of coarser clay and those of A3 ware of finer, more micaceous clay.

Forming. The forming-techniques conform to those found at other sites in the region. There is no evidence of the use of the spun wheel, the vessels being hand-

made or more often formed with the aid of some sort of turntable.[1] This process is further indicated by the curious, heavy bases so common at Utnūr, which indicate not only the very amateurish potting but also the concave forms into which the green clay was pressed. The A1 and A2 wares have generally a heavier section than the A3 and show more prominently the marks of inexpert potters. The A3 sherds show often the same scraping of the inner surface that was noticed at Piklihāl and which is not found on the other wares. Handles, lips, lugs, spouts and channel-spouts are absent from this assemblage; so too are legged stands and terra-cotta figurines. On the other hand the rare hollowed feet of A3 ware, found at Piklihāl and other sites, also occur.

Surface treatment. About 90 per cent of the fragments belonged to the A1 and A2 wares. Of these rather more than half had been burnished and thus were classified as A2. Generally the heaviest vessels were in the unburnished A1 ware. In some instances the burnish was carefully applied in horizontal or vertical strokes, occasionally of the one on the inner and the other on the outer surface, just as at Piklihāl. Slip or dressing was found on only 9 per cent of the sherds, being those classified as A3. As at Piklihāl this was really too thin to form a slip in the accepted technical use of the term, but rather was a thin ferruginous dressing, probably of earthy haematite ground in water. On less than 1 per cent of all sherds, and all of A1 ware, incised decoration was found (see Pl. 6*a*). Surface roughening or rustication of the kind found in the Upper Neolithic of Piklihāl was absent. Two distinct forms of painting were recorded. Upon the A2 sherds about 4 per cent of the total, mainly being rims, bore traces of a post-firing red ochre, and upon the A3 sherds about 1 per cent had pre-firing application of black or purple painted decoration. The proportion of these painted sherds was higher than at Piklihāl, where they only occurred in the Lower Neolithic. Perforation of bases, finger-tip and *appliqué* decoration, all particularly features of the Upper Neolithic at Piklihāl, were absent.

Firing. No kilns were found, but from indirect evidence it may be inferred that simple bonfire-type kilns were in use, as at Piklihāl. The A1–2 colour range was most commonly grey to black for the body with a grey-to-buff surface, sometimes approaching a soft silvery grey. In ill-fired specimens the surface was dirty brown to black. The A3 ware had also a similar range to that of Piklihāl. Vermilion or red was most common, and next came black. A smaller number of pieces were of chocolate or burnt sienna. A very few sherds (which for various reasons may all have been imported to this site) were grey-and-black, black-and-brown and even black-and-red, but all were so small that their forms

[1] See the discussion of the technique in Allchin, *Piklihāl Excavations* (1960), pp. 27–8; also in my 'Poor men's *Thālīs*, a Deccan potter's technique', *BSOAS*, XXII, no. 2 (1959), pp. 250–4.

could not be discovered. The characteristic mottled wares and surfaces of A4 and A5 wares of Piklihāl were absent.

Functional. At Piklihāl there arose from the consideration of some 360 recognizable pot-forms the question of their assignment to various functional groups. We made a further division into some 70 types and over 20 functional groups. At Utnūr only 70 recognizable forms were discovered, divisible into only 13 types and five of the Piklihāl functional groups. Indeed 44 of the forms belonged to four types only. Thus we see that at Utnūr the number of functions is greatly reduced and the pots made or taken to the site represent a more limited range than those found at the regular settlements. Particularly certain special and peculiar forms are absent and also no examples of the large storage vessels found at Piklihāl throughout the Neolithic occur. The functions which we would assign to the pots from Utnūr are mainly as shallow platters for the service of food, open bowls of various shapes and sizes for the taking and serving of food, open-mouthed jars for milking, holding liquids and perhaps cooking, and narrow-necked jars for the carrying and storing of liquids.[1]

Comparative. The A1 and A2 ware occur throughout the whole ash accumulation period without apparent change. It is possible that the unburnished A1 ware, being as it is mainly confined to large vessels and generally to their bases, may represent fragments of partly burnished pots, and if this were so then the distinction between the two wares would break down. The colour of the surface is predominantly grey, with less common buff, black and brown. About 40 per cent of the rims bear post-firing ochre paint, usually in the form of plain bands of colour. On some rims the paint is no more than a translucent wash, on others it is thicker and resembles an unfired slip. The relatively higher numbers of painted sherds may indicate that at earlier sites the paint was removed during the washing of the sherds, as certainly occurred in some lots from Piklihāl. A1 incised sherds were rare, but recurrent finds were made throughout the occupation. They are in some ways unlike the examples so far recorded at Neolithic sites in the region, notably in their use of short strokes in varying directions (Pl. 6*a*), but in this they resemble sherds recently recovered farther north, for example, at Maheshwar.[2] All told the A1 and A2 ware at Utnūr show definite affinities with the pottery of the Lower Neolithic at Piklihāl and the corresponding I A culture of Brahmagiri. This is emphasized by the absence of the A4 and A5 ware, and of spouted vessels, channel-spouts, A1 rusticated

[1] See Allchin, *Utnūr Excavations* (1961), pp. 26–7, for a detailed analysis of functions in comparison to those of the Piklihāl assemblage.

[2] See H. D. Sankalia, B. Subbarao and S. B. Deo, *The Excavations at Maheshwar and Navda Toli, 1952–3* (Poona, 1958), figs. 54–6.

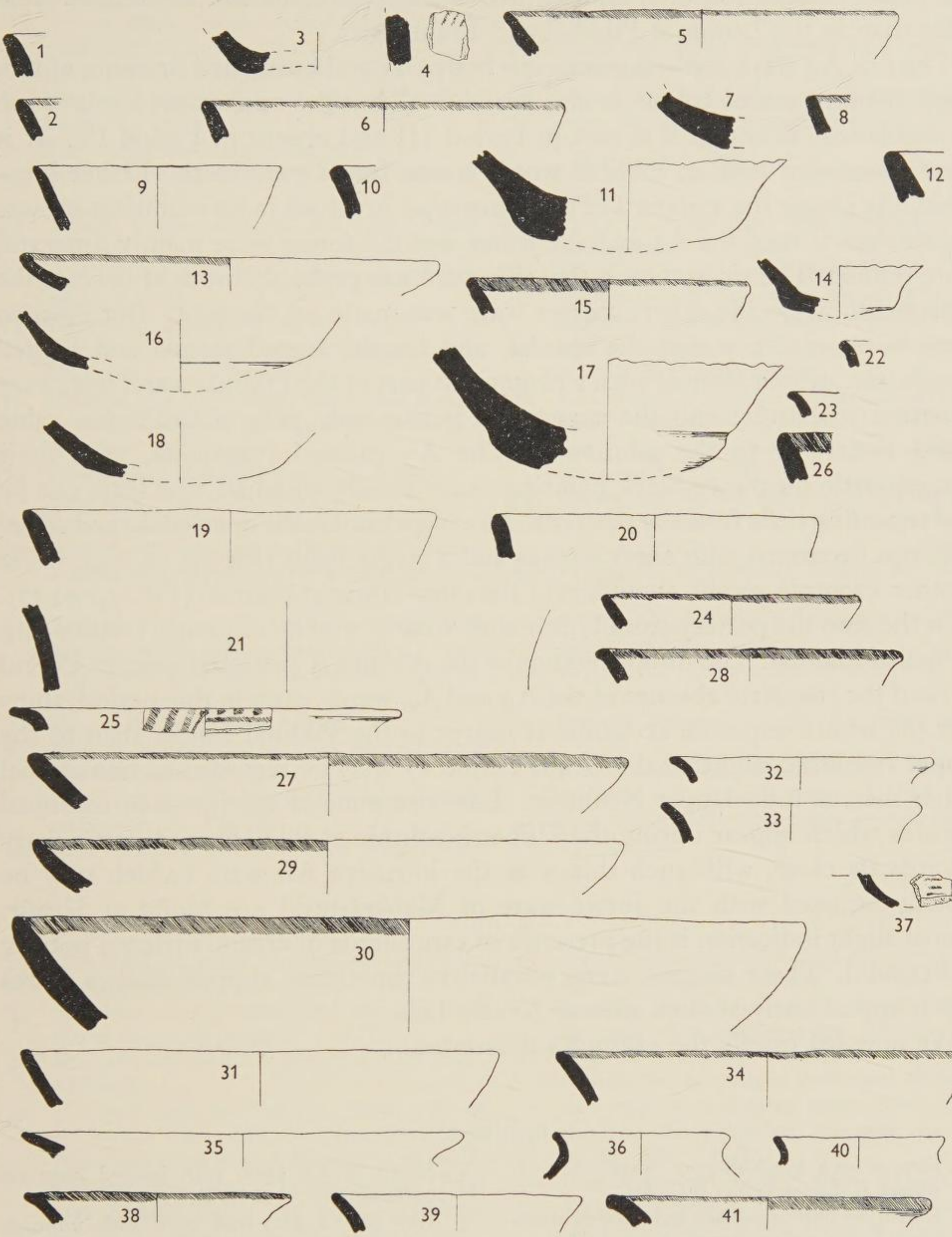


Fig. 7. Neolithic pottery from Utnūr excavations (scale, 1 :4).

and perforated sherds, etc., all of which are more frequent in the Upper Neolithic than in the Lower at Piklihāl and Brahmagiri.

The fine A 3 ware, with its micaceous body clay and burnished dressing of red, black or burnt sienna colour, is also found in all but the uppermost levels of ash accumulation, although it is rare in Period III and absent in Period IV. It is more prominent than at Piklihāl where it was found only in the Lower Neolithic. At Utnūr the standard of craftsmanship involved in its manufacture was higher than that of the A 1 and A 2 wares and the forms were mainly finer and more refined. The suggestion is that this ware was probably brought in from the settlements while the other, coarser ware was made on the spot. But even so there is no evidence that the special, and fragile, legged stands and lugged vessels, etc., which formed such a prominent part of the Piklihāl ware, were ever imported to Utnūr; and the suggestion is that only pots of utilitarian value found their way to the ashmound. The A 3 painted fragments, with their characteristic purple-to-black painting, were mostly so small that little can be said regarding their forms or patterns. An exception was the open-mouthed vessel with rim decorated with short strokes and a single band (Fig. 7, no. 25), while another example recalls shoulders of the same fabric at Piklihāl (Fig. 7, no. 37).

In the sum the pottery from Utnūr shows fairly well its sequence relationship to that of Piklihāl. The disappearance of the A 3 and A 3 painted ware in Period IV, and the complete absence of the A 4 and A 5 wares, even in this period, show that the whole sequence at Utnūr is nearer to the Piklihāl Lower than to the Upper Neolithic, and that the Utnūr Period IV may be regarded as transitional rather than as fully Upper Neolithic. Likewise none of the forms or technical features which appear during the Upper Neolithic at Piklihāl, and particularly towards its close, with such things as the intrusive AB ware (which may be broadly equated with the Jorwe ware of Mahārāshtra) are found at Utnūr. A final slight indication is the presence of rare sherds of cream-surfaced pottery in Period I. These suggest some parallel to the cream slipped Mālwa wares which appear early at such sites as Navdā Tolī.

We now list briefly the examples illustrated.

FIGURE 7[1]

1 Rim of A 2 blackish-grey ware. Site I, square B, Layer 11*a* (I B (11*a*)).
2 Rim of A 2 buff-and-black ware, traces of unburnt ochre painted band. I B (11*a*).
3 Base of A 2 blackish-grey, perhaps from same vessel as 1. I B (11*a*).
4 Sherd of A 2 grey, with incised lines on outer surface. I B (11*a*).
5 Rim of A 2 grey-buff bowl with unburnt ochre band on rim. I J (11*a*).
6 Rim of thick A 2 painted ware bowl. I J (11*a*).

[1] For further detail of comparisons see Allchin, *Utnūr Excavations* (1961), pp. 29–34.

7 Crudely formed base of black-grey mottled ?A 1–2 ware, with evidence of crude moulding. I J (11*a*).
8 Rim of A 2 grey painted ware. I C (11).
9 Rim of A 2 grey ware, heavily worn, gritty body. I F (7).
10 Rim of A 2 black-grey ware. I F (7).
11 Base of very coarse black A 1 ware with buff surface. I G (11).
12 Thick, coarse rim of A 1 grey ware. I C (11).
13 Rim of A 2 grey with traces of unburnt paint. I G (9).
14 Base of A 2 grey-black ware. I G (9).
15 Rim of A 2 grey with unburnt painted band. I B (11*a*).
16 Haunch of A 2 red ware, this colour is very rare and the piece perhaps imitates the A 3 red ware. I B (11*a*).
17 Coarse base of A 1 grey ware. I B (7).
18 Base of A 3 red ware. I B (7).
19 Rim of A 2 buff-brown ware. I B (7).
20 Rim of A 2 black mottled ware with surface crackle, clearly the result of a firing mistake. I B (7).
21 Side of red-brown A 2 vessel with horizontal burnish inside and vertical outside. Form and fabric paralleled by Piklihāl type 38. I B (7).
22 Rim of A 2 buff ware. I B (7).
23 Rim of A 2 black-grey ware with unburnt painted decoration. I B (7).
24 Rim of A 2 buff ware with unburnt ochre painted band. I B (9).
25 Rim of worn A 3 red ware with purple painted decoration applied before firing. I G (11).
26 Thick rim of A 2 grey ware with unburnt ochre painted band. I G (11).
27 Rim of A 2 grey-black ware with traces of ochre painted band applied before firing. I C (7).
28 Rim of A 2 grey ware with unburnt ochre band. I J (12).
29 Rim of A 2 grey bowl with unburnt ochre painted band. I A (3*a*).
30 Thick and roughly made rim of bowl of A 1 black-and-buff ware with traces of broad unburnt ochre painted band. I E (11).
31 Rim of black-and-grey A 2 ware with traces of red ochre band. I E (11).
32 Rim of buff to brown A 2 ware. I E (11).
33 Rim of decayed A 3 red ware. I E (11).
34 Rim of A 2 grey-black ware with unburnt ochre band. I J (11).
35 Rim of fine A 3 red ware, with brilliant red dressing and traces of purple paint on outer surface. I J (11).
36 Fragments of anciently broken A 3 ware. I J (11).
37 Sherd of A 3 red ware with purple pre-firing paint. I J (11).
38 Rim of A 2 brown-and-buff ware with unburnt ochre band. I E (7).
39 Rim of black-and-brown A 2 ware bowl. I E (7).
40 Rim of buff clay, probably much weathered A 3 ware with dressing removed. I J (12).
41 Rim of A 2 black with ochre painted band. I J (3).

FIGURE 8

42 Rim of large bowl of A 2 grey-and-black with broad unburnt ochre band. I G (9).
43 Shoulder of A 3 ware, red dressing and traces of purple pigment. I G (11).
44 Rim of weathered A 2 grey-and-black ware. I M (11).
45 Hollow-footed base of A 3 black ware of micaceous clay. The complete form may have been some kind of footed cup or stand. Compare examples from Brahmagiri (T 74) and Piklihāl (form 42), also Maheshwar (cf. fig. 30, type T 33*a*, etc., of that report).
46 Rim of A 2 grey-and-black ware with unburnt ochre band. I K (12).
47 Rim of A 2 grey with unburnt ochre band. I K (12).
48 Rim of unusually hard-fired A 2 grey ware, light-brown outer surface, decorated with carefully applied horizontal strokes. Broad unburnt ochre band on edge. I C (9).
49 Rim of A 2 chocolate-brown ware with equally fine burnish in horizontal direction and trace of post-firing ochre paint. Both this and the preceding specimen are unusually fine. I C (9).
50 Rim of decayed A 2 grey ware. I H (11).
51 ?A 3 black ware of unique form from mixed deposit in later pit, but probably Neolithic. Compare Maheshwar, types T 5 and T 5*a*. II E, pit.
52 Rim of bowl of A 2 grey with unburnt ochre band. I P (11).

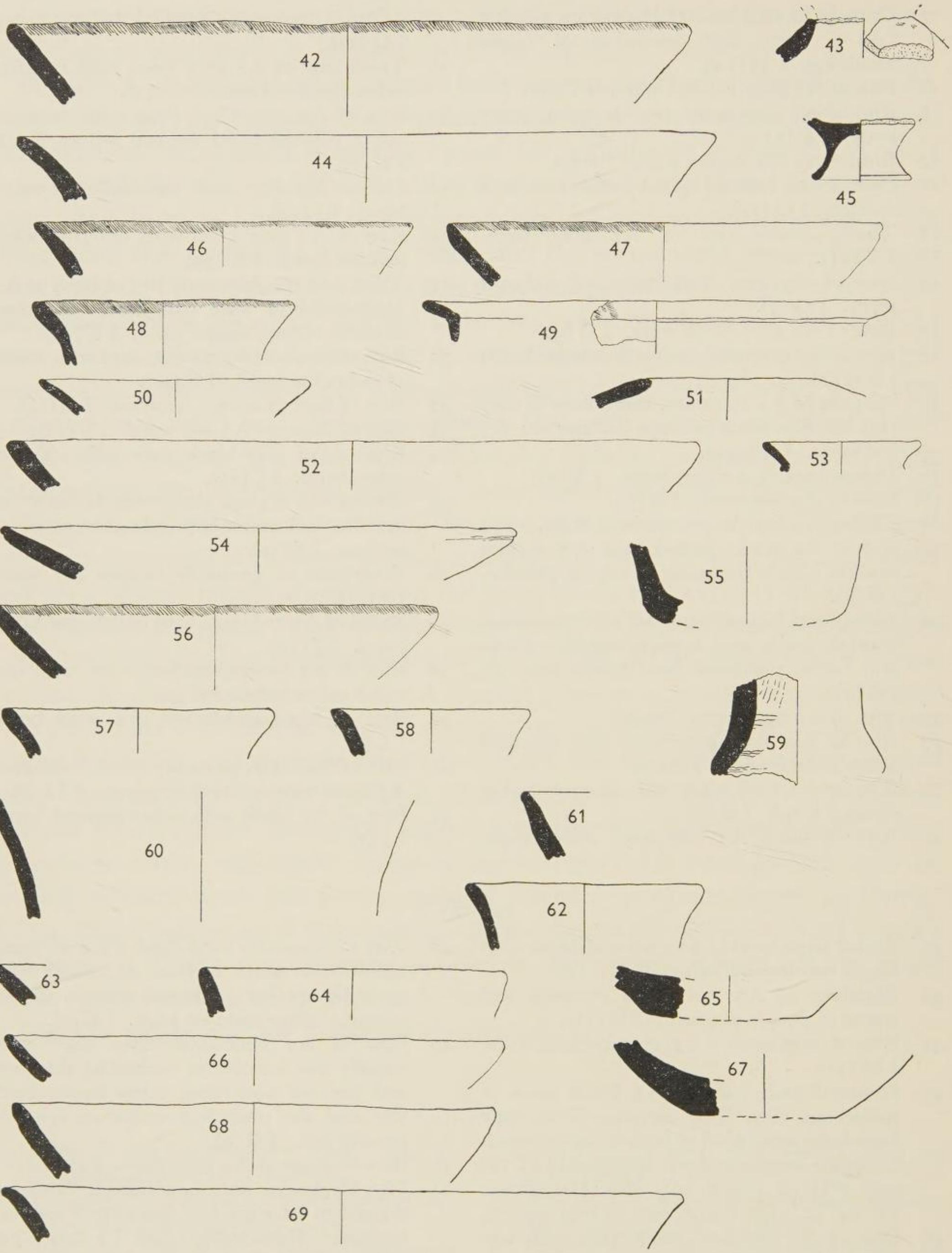


Fig. 8. Neolithic pottery from Utnūr excavations (scale, 1:4).

53 Rim of A 3 black, highly burnished. I K (5).
54 Rim of brown A 2 ware. I N (11).
55 Base of A 1 grey. I G (9).
56 Bowl of patchy A 2 grey ware with trace of unburnt ochre wash. I K (5).
57 Rim of grey-black A 2 ware, hand-modelled. I A (9).
58 Rim of A 2 grey ware. I C (11).
59 A 3 red ware, form uncertain. I A (8*a*).
60 Wall of hard-fired A 2 grey-black ware, very regular vertical burnish on outer surface. Compare Piklihāl type 38*a* in both form and fabric. I C (11).
61 Rim of roughly modelled A 2 orange-brown ware. II C, pit.
62 Rim of A 2 orange-brown ware with fine burnish. II D (5).
63 Rim of coarse A 1 brown. I E (7).
64 Rim of A 2 grey ware. I B (9).
65 Part of base of heavy A 2 vessel, orange-brown and black. I E (8).
66 Rim of bowl of A 3 black ware. I B (9).
67 Base of A 2 ware, pale buff, grey-and-black, highly burnished. I C (9).
68 Rim of orange-brown A 2 ware. I E (8).
69 Rim of fine A 3 grey-black ware. I C (9).

Incised sherds (Pl. 6*a*). These represent all the larger fragments from the excavation. All are of A 1 ware. The incised lines are sometimes made with the thumb-nail and at other times with a broad blunt point, perhaps a bone. The specimens come from the following provenances: 1. I M (5); 2. I C (11); 3. I E (7); 4. I B (11); 5. II E (3); 6. Surface; 7. II E (5); 8. I A (5); 9. I B (7).

Miscellaneous. It remains to notice one or two unusual occurrences of pottery from Neolithic levels. First is a unique sherd of very fine light-grey clay with dark-grey glossy surface from I J (7). Although only 1 cm. square its unusual quality marks it off from the common pottery. There can be little doubt that it was imported. Another interesting group of sherds of A 2 ware come from I K (12). In these the surfaces of a number appear to have been treated with some sort of cream-coloured dressing or slip. They are unlike anything previously reported in this area but reminiscent of the cream slipped wares of Maheshwar and Nagdā. It is not however suggested that these represent an importation at Utnūr but rather a distant contact.

The early historic pottery

The very small deposits of early historic pottery on the upper part of the mound render it of little value save as a means of dating the post-ash occupation of the site. The black-and-red B 1 ware which is so characteristic of the Iron Age of South India and of its graves was scarcely found at Utnūr, and its context generally indicated that it was associated with pottery of a later date. The B 3 black-and-red ware which is found along with the other pottery of the early historic period is relatively more common. So too are the red and black varieties of B 3 ware, while the B 2 painted ('Andhra') ware is also not uncommon. Finally, the B 4 ware with its undressed surface of pink or grey was also not uncommon in these deposits. These wares are found only in the humus and mixed ash and soil layers and in the pits and trenches associated with them; they also found their way into the many robber trenches and burrows which seem to have been excavated in the centuries following the end of the early

occupation of the site. Along with these common wares, which were the regular products of the potters' kilns of all the settlements of the period, there were several sherds which indicated importations of special wares. Where these were manufactured cannot be definitely stated as yet, but the wares are of interest even so. The first of the imported wares was represented by a group of five sherds of black-and-red ware with a glossy surface-dressing quite unlike the usual run of B 3 black-and-red ware. I have collected fragments of this ware at sites as widely separated as Koppal and Giddalūr and at several other places in the Raichūr Doāb. If further proof were needed that the potters' intention was to imitate the fine rouletted ware which was at this period imported, probably from the coastal regions, it is found in the actual roulette impressions on sherds from Koppal.[1]

The Utnūr examples are illustrated in Fig. 9, nos. 10, 23 and 27, and Fig. 10, nos. 40 and 42. A second imitation of the rouletted ware is on the interior of a shallow *thālī* form of B 3 black-and-red ware (Pl. 6*b*). Here a finger-tip painted rosette had been applied in a whitish pigment. Comparable painting of the bases of *thālīs* of the B 3 ware occurred at Kondāpur and at Chandrāvalli, in both cases from the opening centuries of the Christian era.[2] A third imported piece was a single fragment of the shoulder of a red-polished ware sprinkler, imported beyond doubt from one of the centres of its manufacture. The nearest such centre which I have personally observed was at Kondāpur, whence this piece could well have derived.

Numerically the least common sherds at the site were medieval to modern D wares. The very few examples which were recorded included no forms which were worthy of illustration.

FIGURE 9. EARLY HISTORIC POTTERY FROM THE POTTERY PIT, SITE I B (1)[3]

1 Bowl of B 3 black-and-red ware.
2 Similar bowl of similar ware.
3 Bowl of less glossy B 3 ware.
4 Base of cup of B 4 black-and-red ware. A common type at Chandrāvalli and many other sites.
5 Similar form of similar ware.
6 Rim of cup of B 3 red ware.
7 Body of jar of B 3 red ware.
8 Rim of cup of red B 4 ware.
9 Rim of large bowl of B 3 ware.
10 Base of *thālī* bowl of red-brown variant of B 3 ware with glossy surface-dressing. Probably regional variant of rouletted ware.
11 Rim of B 3 red ware.
12 Jar of B 3 red ware with incised bands on shoulder.
13 Side of *thālī* bowl of B 2 black-and-red painted ware.
14 Similar form of B 3 black-and-red ware.

[1] These finds are still unpublished but were reported in my unpublished Ph.D. thesis, 1954, pp. 188–91, 307–8.

[2] Observations made in the site museum at Kondāpur and in the Mysore Archaeological Department's offices. See also R. E. M. Wheeler, 'Brahmagiri and Chandravalli, 1947', *Ancient India*, no. 4 (1948), pl. CXXIII.

[3] For a more detailed comparison of forms with those from other sites see Allchin, *Utnūr Excavations* (1961), pp. 37–40.

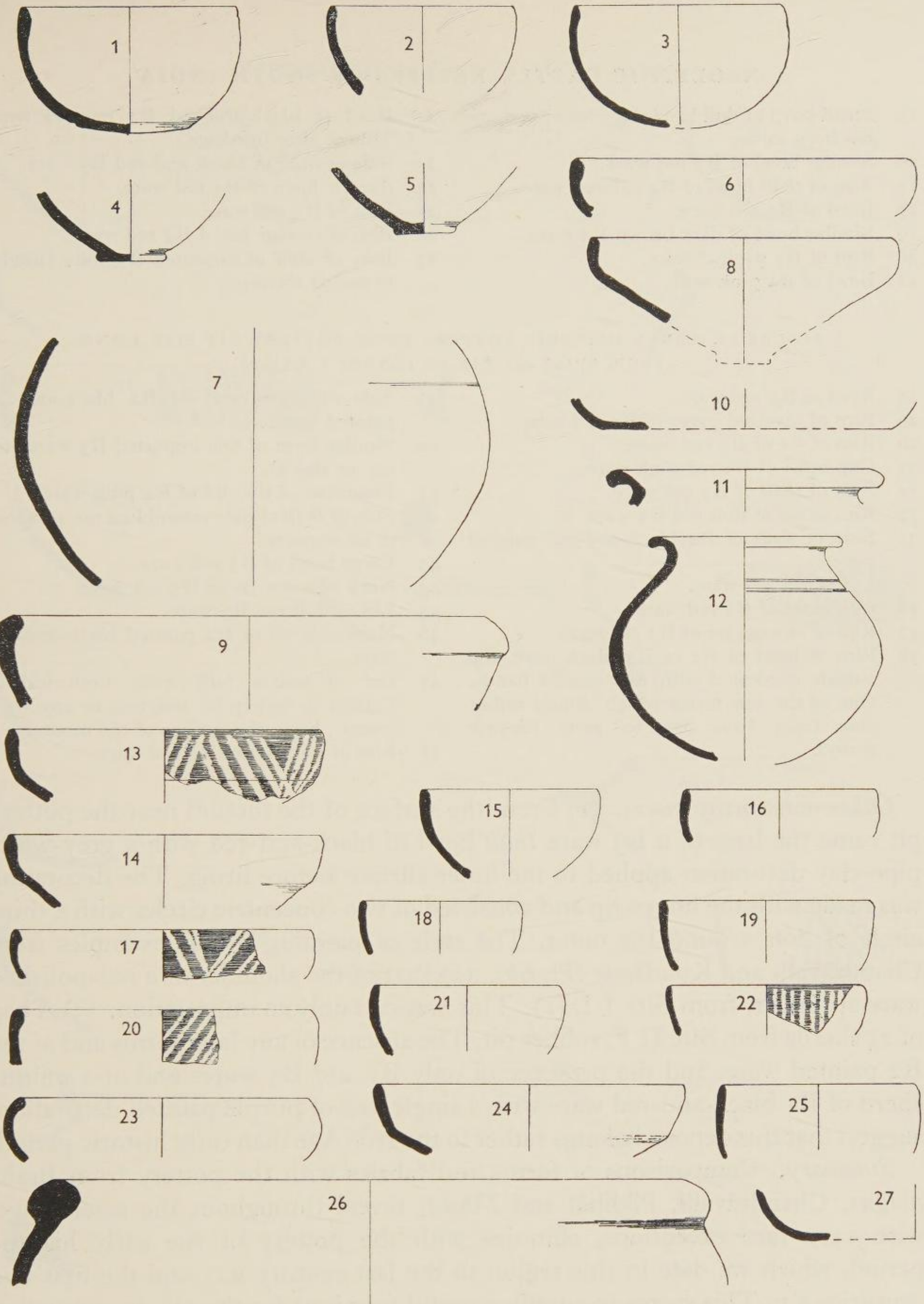


Fig. 9. Early historic pottery from Utnūr excavations (scale, 1 :4).

15 Small bowl of dull brown B3 ware; perhaps has been in fire.
16 Similar bowl of B3 red ware.
17 Rim of *thālī* bowl of B2 painted ware.
18 Bowl of B3 red ware.
19 Similar bowl of dark brown B4 ware.
20 Rim of B2 painted ware.
21 Bowl of B4 pink ware.
22 Bowl of black-and-red B2 painted ware. ?Burnt after breakage.
23 Side of *thālī* of black-and-red B3 ware.
24 Similar form of B3 red ware.
25 Rim of B3 red ware.
26 Rim of storage jar of B3 red ware.
27 Base of *thālī* of imported B3 ware (similar to no. 10 above).

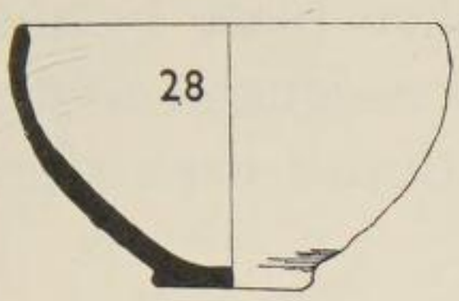
FIGURE 10. EARLY HISTORIC POTTERY FROM POTTERY PIT SITE I AND FROM SPILL OF PIT IN LAYERS 1 AND 2[1]

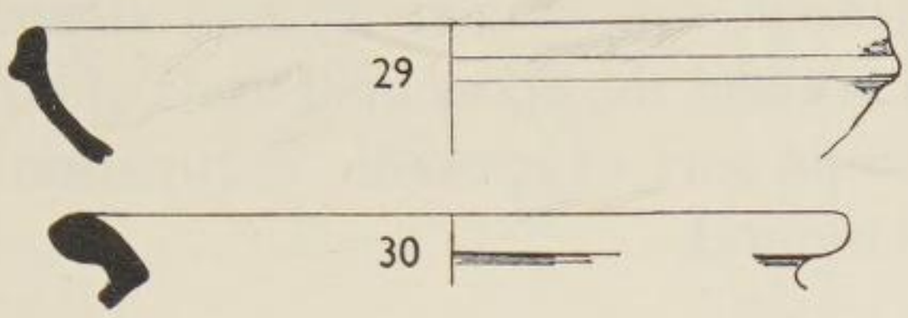
28 Bowl of B4 red ware.
29 Rim of inverted cover of B4 red ware.
30 Rim of jar of B3 red ware.
31 Cup bowl of B4 red-pink ware.
32 Side of *thālī* of B3 red ware.
33 Rim of jar of dull red B3 ware.
34 Side of *thālī* of B2 black-and-red painted ware.
35 Lid of B3 red ware.
36 Cup bowl of B4 red ware.
37 Rim of storage jar of B3 red ware.
38 Rim of bowl of B1 or B3 black ware, the outside decorated with two incised bands. One of the few forms which should rather date from Iron Age to early historic period.
39 Side of *thālī* bowl of B2 black-and-red painted ware.
40 Similar form of fine imported B3 ware (see no. 10 above).
41 Fragment of tiny lid of B4 pink ware.
42 Side of *thālī* closely resembling no. 40 above in all respects.
43 Large bowl of B3 red ware.
44 Neck of water jar of B3 red ware.
45 Lid of dull red B3 ware.
46 Narrow bowl of B2 painted black-and-red ware.
47 Lid of coarse buff ware, unburnished. Cannot definitely be assigned to any ware group. From the surface of the mound.
48 Rim of large jar of B3 red ware.

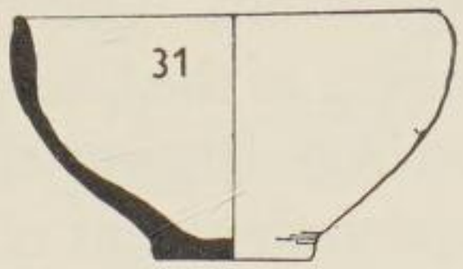
Other noteworthy pieces. (1) From the surface of the mound near the pottery pit came the base of a B3 ware *thālī* bowl of black-and-red with a grey-white pipe-clay decoration applied to the inner surface before firing. The decoration was made with the finger-tip and consisted of two concentric circles with a third circle of dots around the outer. The style of painting recalls examples from Chandrāvalli and Kondāpur (Pl. 6*b*). (2) Part of the shoulder of a red-polished ware sprinkler, from Site I L (1). This was certainly an importation. (3) A bag of 25 sherds from Site II F, robber pit. The absence of any later forms and of the B2 painted ware, and the presence of only B1 and B3 wares and of a unique sherd of B1 black-and-red ware with a single line of purple painted decoration, suggest that this deposit belongs rather to the Iron Age than early historic period.

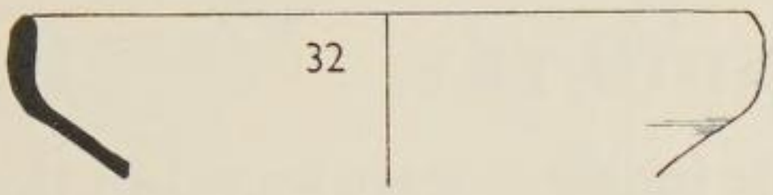
Summary. Comparisons of forms and fabrics with the pottery from Brahmagiri, Chandrāvalli, Piklihāl and Māskī, reveal throughout the assemblage, with very rare exceptions, affinities with the pottery of the early historic period, which we date in this region to the last century B.C. and the first two centuries A.D. This seems to supply a useful terminus for the ash-accumulation period, although the duration of the hiatus between it and the next occupation

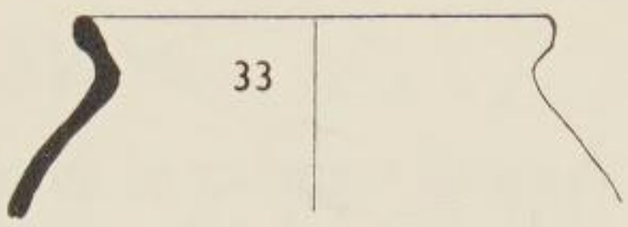
[1] For a more detailed comparison of forms see Allchin, *Utnūr Excavations* (1961), pp. 37–40.

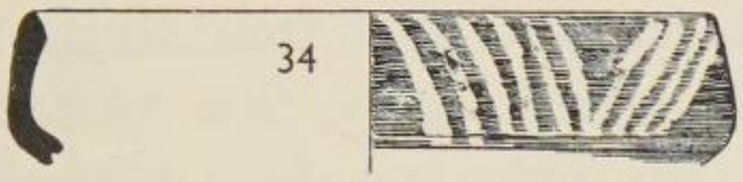


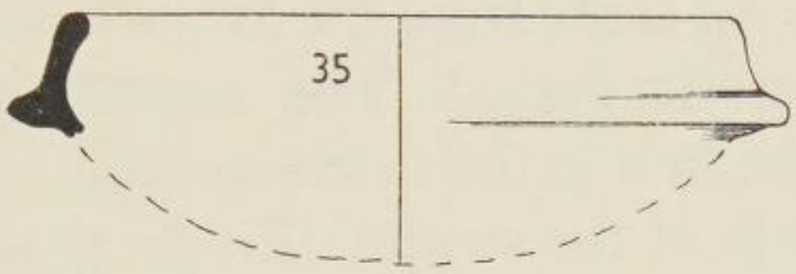


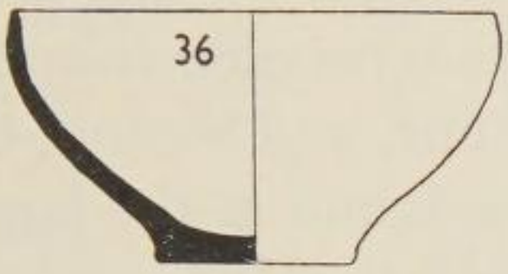


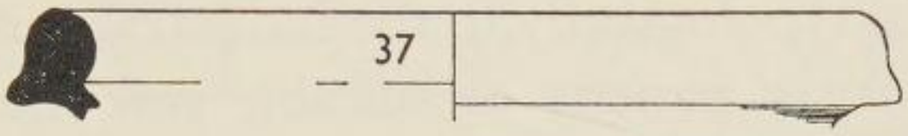


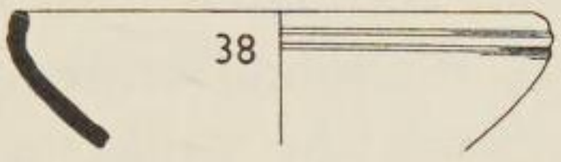


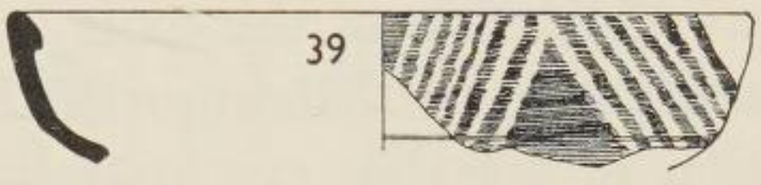


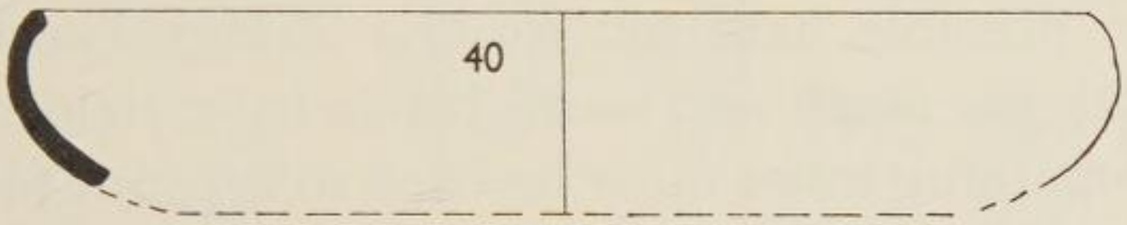


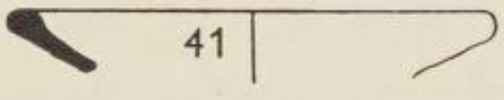


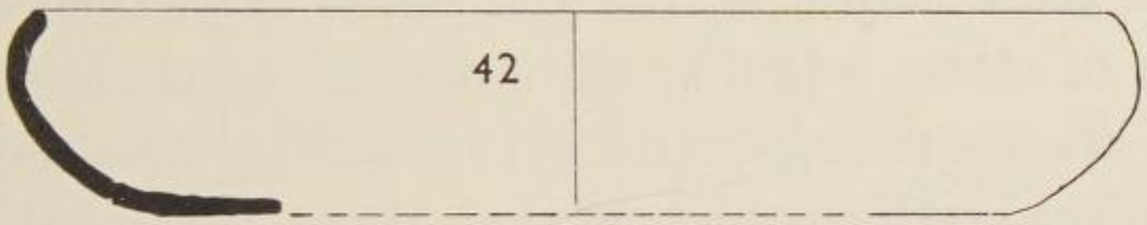


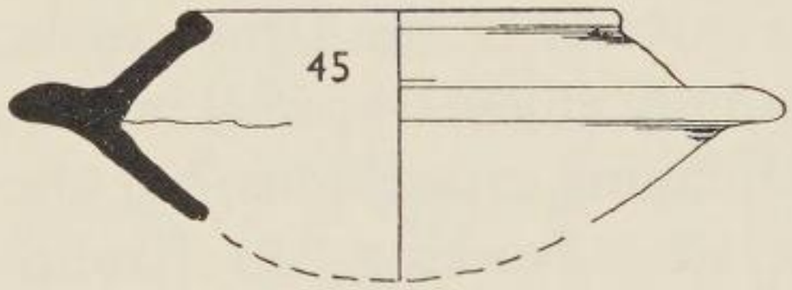


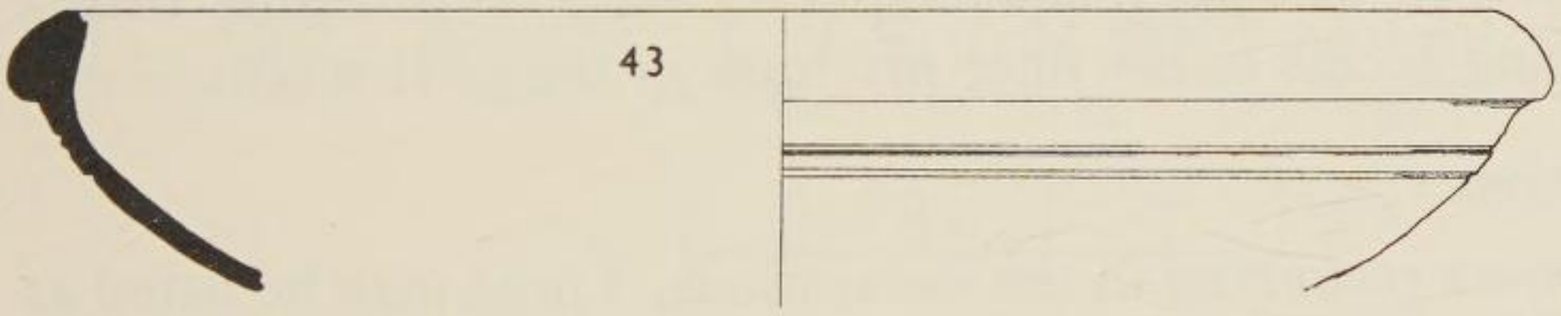


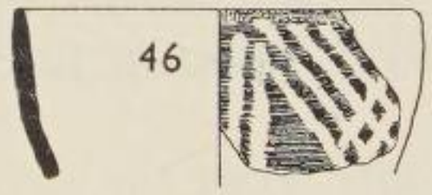


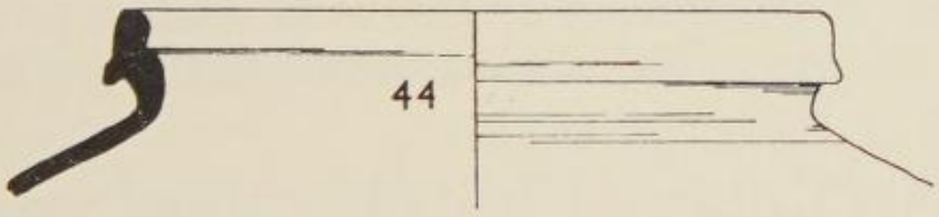


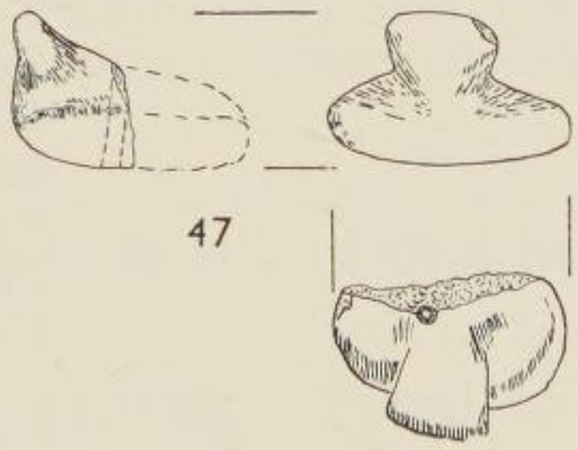












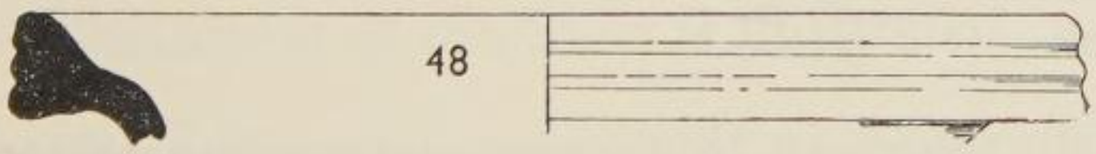


Fig. 10. Early historic pottery from Utnūr excavations (scale, 1:4).

is uncertain. Certainly much robber activity had already taken place by the opening of the Christian era and the occasional finds of pottery assignable to the Iron Age suggest that some sort of sporadic occupation continued even after the abandonment of the mound.

2. NEOLITHIC BLADE INDUSTRY

A small number of stone tools of the Neolithic blade industry were found in the excavations. All came from the ash-accumulation layers and none from those of the early historic period. The assemblage was augmented by two surface collections, the first in the fields around the mound, the other at a short distance along the banks of the stream. Either alone or together it is apparent that these tools belong typologically to the industry, but there are certain peculiar features. First, there is a paucity of suitable raw material near Utnūr, and second, the workmanship of the tools is poor compared with the tools found at the larger settlements of Māskī or Piklihāl. We found evidence at Piklihāl of the importation of suitable raw materials from the banks of the river Krishnā or even beyond,[1] and this would have been possible here too for the Tungabhadrā provides ample raw materials and both the north and south banks have yielded traces of ancient factory sites,[2] but something more must be used to account for the poverty of the Utnūr tools. Our explanation is that the larger settlements not only enjoyed special importation of stone, whether the products of trade or of foraging expeditions, but also had among their population specialists who did the stone-working. At Utnūr, however, our surmise is that there were only small groups of men staying at what was a temporary camp, and neither themselves making nor having access to the finer products of the settlements.

Tools from the excavations

Only 34 fragments were recovered in the excavations. These may be listed as follows:

Cores	2
Blades	13
Backed blades	2
Lunate	1
Flakes	14
Used pieces	2
TOTAL	34

These were found outside the inner stockades in those areas where the pottery was also most frequent. They occurred in all the periods, particularly in the

[1] Allchin, *Piklihāl Excavations* (1960), p. 96.
[2] Cf. Subbarao's unpublished Ph.D. dissertation, 1949, pp. 92–5. Quoted with permission.

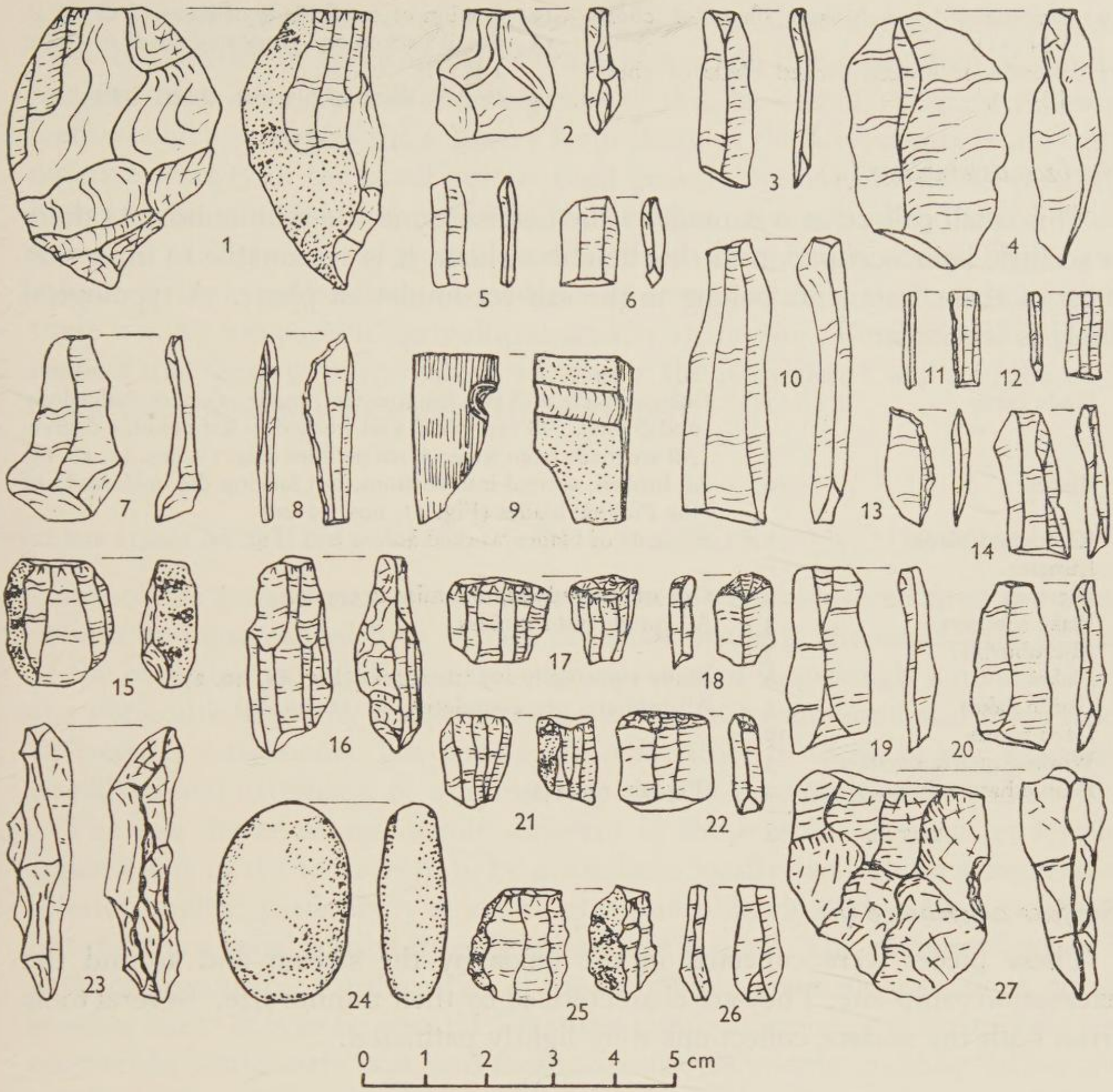


Fig. 11. Utnūr stone-blade industry: nos. 1–8 and 10–14, from the excavations; nos. 15, 16, 18–20, 22–25 and 27, from surface assemblage (*a*); nos. 17, 21 and 26 from surface assemblage (*b*); no. 9, fragment of perforated steatite (see p. 44).

lower levels of Period I and in Period II. No tools were found in Periods IV and V, and only two specimens in Period III.

A selection of the tools is illustrated in Fig. 11, nos. 1–8 and 10–14:

1 Blade core made on river pebble of coloured chert. I J (7).
2 Flake of brown chert. I J (7).
3 Broken blade of chert. I K (12).
4 Flake of fine basalt. I J (7).
5 Broken blade of brown chert. I J (7).
6 Broken blade of chert. I K (12).
7 Flake of chert. I G (12)
8 Long lunate of chert, the tip is broken. I E (7).

10 Unusually large broken blade of chert. I N (11).
11 Section of broken backed blade of chert. I E (7).
12 Section of small blade of chert. I G (9).
13 Small backed and truncated blade of chert. I B (11).
14 Broken blade of blackish chert. I J (9).

Surface assemblage (*a*)

This small collection was made in the fields around the ashmound. As there is so little later occupation in this neighbourhood it is reasonable to infer that most of these fragments belong to the ash-accumulation phase. A typological analysis is shown:

Blade cores	3	One complete and two fragmentary, made of chert chalcedony and crystal. All very small and worked to last possible degree. All are made from water-worn pebbles (Fig. 11, nos. 15, 16, 25)
Blades	10	All broken, several into sections, but lacking the uniformity of the Piklihāl blades (Fig. 11, nos. 19–20)
Retouched blades	2	Sections of blades worked across end (Fig. 11, nos. 18 and 22)
Lunates	—	
Discoids	2	One of chalcedony, one minute crystal
Flake scrapers	5	All rough and formless
Microburins?	3	
Flakes	16	Many showing heavy use marks (Fig. 11, no. 27)
Guide flakes	3	All primary, one complete (Fig. 11, no. 23)
Used pieces	19	
Worked quartz crystals	3	
Pebble hammerstones	2	(Fig. 11, no. 24)
TOTAL	68	

Surface assemblage (*b*)

These pieces were collected in the fields by the stream and around the excavation camp-site. They are characterized by their minute size. Several tools from both the surface collections were lightly patinated.

Cores	2	Fig. 11, nos. 17, 21
Blades	11	All broken sections, some of minute size (Fig. 11, no. 26)
Flakes	16	
TOTAL	29	

Summary

The Utnūr blade industry, while it clearly belongs to the Neolithic tradition, is separated from the hitherto published assemblages from Māskī and Piklihāl, etc., by its scarcity and comparative poverty. This is particularly noticeable with regards to raw material. Although the site is only 7 miles from the banks of the Tungabhadrā, and somewhat less from the old deposits of gravels, both of

which provide good sources for raw material, these were not exploited. While there is evidence of the working of cores at the site these are often of minute size and have been worked and reworked to the last possible degree. Another feature which separates the industry from those of the settlements is the comparative scarcity of the small heavily used broken sections of blades, which we have suggested at Piklihāl represent the remains of compositely hafted tools, knives or sickles. The suggestion is that these were not in use at Utnūr and indeed, if they can be taken as evidence of some sort of grain harvesting, that there was no comparable agricultural activity at the site. Finally, we are led to suspect that there were specialists working in the settlements, and that the work at the ashmound was comparatively less expert.

3. GROUND AND PECKED STONE INDUSTRY

Tools of the ground and pecked stone industry were recovered from the excavations and augmented by a surface collection made in the same areas as that of the blade industry. The general picture revealed is strikingly similar. There is a noticeable disparity between the tools from the ashmound and those from the regular settlements, but once again it is rather in terms of raw materials employed and excellence of workmanship than of typological differences.

The raw materials are mainly different in the scarcity of basalt at Utnūr. Again many of the tools seem to be made from locally available raw material of inferior quality, particularly of a dark green hornblende schist and grey gneiss, but there is a usual admixture of granites, diorites, etc. The absence of basalt is perhaps responsible for the rarity of the techniques generally associated with it at other sites. It is to be remarked that the Utnūr assemblage contains very few edge-tools, particularly axes, and these are most commonly made by flaking and grinding. The whole range both of raw materials and craftsmanship is far behind that of Piklihāl and yet farther behind that of the great axe-factory at Bellary and Sanganakal. Again the Utnūr tools seem to have been used and re-used and few examples of fresh tools occurred. Many were highly worn before they finally broke and were discarded.

Surface collection

Axe group. Twelve axes were found, all but one being illustrated in Pl. 7*a*. In no case was the blade intact, but generally it was broken or so blunted with use as to be unserviceable. Only one specimen shows traces of flaking, the others having been made by pecking and battering.

1 Axe of grey gneiss, pecked and ground, blade broken.
2 Small axe of grey granite with squared butt, pecked and ground, blade broken right off.
3 Butt end of small axe of greenish hornblende stone, pecked.
4 Butt end of long axe of granite, formed by grinding natural nodule. Nearly circular section.
5 Butt end of small squarish axe of hornblende stone.
6 Butt end of triangulate axe of weathered grey basalt.
8 Body of short squat axe of grey gneiss.
9 Butt end of axe of dolerite.
10 Probably flaked axe of basalt, unground. After blunting it was used as a hammer, body bears traces of hafting polish.
11 Basalt axe, blade broken, with traces of grinding.

By-product flakes. Twelve were found of gneiss, basalt and dolerite.

Blocks. Eleven blocked-out axes of basalt, hornblende schist and gneiss, roughly shaped and then discarded (Pl. 7*a*, no. 7).

Discoids. One discoid of grey gneiss.

Spheroid rubbers. Five specimens were found of greenstone, granite, and gneiss (Pl. 7*b*, nos. 4 and 6).

Ovoid rubbers. Eight specimens of basalt, diorite, green hornblende schist, and granite (Pl. 7*b*, no. 3).

Discoid rubbers. Seven examples, some seem to have been used also as hand-hammers. Of grey gneiss, green hornblende stone, and in one case a nearly natural nodule of ironstone has been utilized (Pl. 7*b*, nos. 7, 8 and 10).

Pestles. One example of a longish cylindrical-oval sectioned rubbing stone of pink granite (Pl. 7*b*, no. 1).

Concave querns. Three samples were collected but several smaller fragments were noticed lying on the edge of fields. All were small fragments of broken rectanguloid querns of granite (Pl. 8*b*).

Palettes, flat grinding stones. Six specimens, 5 of granite, 1 of hornblende stone (Pl. 7*b*, no. 9).

Oval hammers. One of grey granite (Pl. 7*b*, no. 5).

Axe hammers. One of diorite.

Specimens from excavations

Axe group. No examples were found in the excavations.

By-product flakes. One used flake of basalt from I A (5).

Spheroid rubbers. Eleven examples, usually with traces of prolonged and heavy use. One was in good condition.

1 Spheroid rubber of grey granite, I L (2), (Pl. 8*a*, no. 1).
2 Spheroid rubber of granite, I O (7).
3 Spheroid rubber of grey gneiss, I A (5).
4 Spheroid rubber of whitish granite, I E (9).
5 Spheroid rubber of dolerite, small, Site III.

6 Spheroid rubber of grey gneiss, large size, broken, *c.* 8 cm. in diameter, II (6) (Pl. 8*a*, no. 4).
7 Spheroid rubber of granite, fragment, II (6).
8 Spheroid rubber of dolerite, I D (9).
9 Spheroid rubber of grey gneiss, I H (4).
10 Spheroid rubber of gneiss, I B (7).
11 Spheroid rubber of gneiss, I B (9).

Ovoid rubbers. Eleven examples, some are quite irregular in form.

1 Ovoid rubber of white granite, Site III.
2 Ovoid rubber of dark grey dolerite, Site III.
3 Ovoid rubber of whitish granite, I F (12).
4 Ovoid rubber of pinkish granite, fragment only, I E (9).
5 Ovoid rubber of pinkish granite, II F (4).
6 Ovoid rubber of disintegrating brown granite, fragment only, II F (4).
7 Fragment of ovoid rubber of grey granite, I E (7).
8 Fragment of ovoid rubber of pink granite, I G (9).
9 Fragment of ovoid rubber of grey-brown granite, I B (9).
10 Broken ovoid rubber of pinkish granite, I E (9).
11 Broken ovoid rubber of dolerite, I K (1).

Discoid rubbers. Three specimens of pinkish granite, I E (7), granite, II F (3), and unspecified stone, I B (7) (Pl. 8*a*, no. 6 from I E (7)).

Miscellaneous rubbers. Twenty pieces, often little more than natural nodules which had been used as rubbers, from all parts of the site.

Concave querns. Ten fragments were discovered, none complete, and none even as large as the illustrated surface fragments. There is however little difficulty in identifying them.

1 Fragment of concave quern of granite, I C (5).
2 Fragment of concave quern of dark grey diorite, with heavily patinated surface and marks of use and polish on inner surface, I N (8).
3 Fragment of quern of grey granite, II (5).
4 Fragment of quern of whitish granite, II (5).
5 Fragment of quern of granite, I G (11).
6 Fragment of quern of dark grey hornblende stone, I J (6).
7 Fragment of quern of granite, I B (2).
8 Fragment of quern of pinkish granite, I K (12).
9 Fragment of quern of pinkish granite, III.
10 Fragment of quern of grey granite, I A (5).
11 Fragment of quern of pink granite, II F (4) (Pl. 8*a*, no. 3).

Palette stones. Seven examples were discovered.

1 Broken palette stone of fine grey granite, I G (9) (Pl. 8*a*, no. 5).
2 Broken palette stone of whitish granite, III.
3 Broken palette stone of highly patinated dolerite, I C (7).
4 Broken palette stone of pinkish-brown granite, I L (1).
5 Broken palette stone of dolerite, I M (5).
6 Broken palette stone of white granite, I K (2).
7 Broken palette stone. Almost complete specimen of pinkish granite found near surface of square M, bearing distinct red stains on inner surface, but typologically of the Neolithic assemblage.

Hand-hammers. Numerous stones appeared to have been used as hammers, but only those were listed which conformed to previously established types.

1 Hand-hammer of grey gneiss, I D (11).
2 Hand-hammer of dolerite, I F (9).
3 Hand-hammer of dolerite, I F (12).
4 Hand-hammer of yellow granite, I J (2) (Pl. 8*a*, no. 2).

Miscellaneous, selected stones, etc. Several miscellaneous hammers were noticed made of water-worn pebbles of quartz, etc. A small ball of lime-encrusted dolerite from I G (9) may have been used as a gaming piece or toy, a number of quartz crystals were recovered from various levels of the ashmound.

Summary. The typology of these tools will be seen to fit well in many respects with that of the settlement assemblages, the poor quality and scarcity of the axes is the most noticeable difference. Further, even among the much more frequent rubbing stones, which we take to indicate domestic usage in the preparation of foods or food-grains, there is an absence of complete specimens and an indication that these tools too were used and re-used even after they were broken. The axes are of remarkably limited kinds, all the finer specimens from Bellary or Piklihāl are unrepresented, and picks and pointed borers are missing. All this reinforces our view that the work done at Utnūr was of a limited nature and that few if any tools were actually made there. There is a complete absence of the tools of the varieties which we supposed were used in axe manufacture at Bellary.

There is no evidence of evolution or change during the several periods of occupation. There are perhaps more varieties in evidence in Periods I, II and III than in Periods IV or V, where very few examples were discovered and some of those found were almost certainly disturbed and not in their original places. Thus here too the picture is much as with the stone-blade industry and the pottery.

Other objects of stone

A single fragment of worked and perforated steatite or schist, evidently from a perforated tablet 13 mm. thick, was found in I B (2), near the pottery pit. It is probably of early historic date (Fig. 11, no. 9).

4. WORKED BONE

Among the many pieces of animal bone to be noticed below, several were found which had been cut to extract marrow. At least one piece however had been so treated as to make it into a tool. This was a bovine long-bone from Site I, Layer 11 *a*, which had been cut and ground at one end to form a flattened chisel-like blade. Reference may be made to the rare finds of worked bone at other Neolithic sites, from the settlement at Piklihāl and from the ashmound at Halakundi, the latter being also a shallow chisel-like blade which we may surmise to have been a marrow-scoop.[1]

[1] Allchin, *Piklihāl Excavations* (1960), p. 112; Foote, *IPPA* (1916), pl. 46, no. 347.

5. HUMAN REMAINS

Only one human burial was discovered during the excavations. This was of a new-born infant. The bones were badly decayed and few could be preserved unbroken (see above, p. 17). The burial came from before the stockade of Period I C.[1]

6. ANIMAL REMAINS

The excavations produced many hundreds of identifiable fragments of animal bones. These were submitted for a preliminary examination by Dr P. Srinivasan of Osmania University who reports that the great majority are those of cattle. There are also a few bones of deer and goat. It is hoped that we shall be able to submit the bones to a fuller examination in course of time. Over 200 specimens of cattle bones were identified. These show certain very suggestive features. A proportion belong to adults of noticeably smaller size than the majority. It is not clear whether this indicates the presence of two separate breeds, the one resembling the more lightly built cattle found today in the Deccan and noticed by Buchanan as specifically milch beasts, while the heavier majority would resemble the breed now favoured for transport and traction and used for ploughing and cart-drawing. It is perhaps more probable that these small bones represent the presence of something like a longifrons element, but this requires further expert study. The following table sets out the percentages of unusually big or small bones in the several periods:

Period	Small	Normal	Large
I A	2·1	97·9	—
I B	6·3	93·7	—
I C	18·2	81·8	—
II	15·7	77·5	6·8
III	7·14	92·86	—
IV	21·7	73·9	4·4
V	25·0	75·0	—

Another interesting feature of the bones is their distribution. They are fairly evenly scattered throughout the whole skeleton with the possible exception of horns and horn cores. It is not clear whether this has any special significance, but it does seem strange that there should be this one apparent gap in the finds. The cattle may here be identified, as at Piklihāl and Māskī, as normal *Bos indicus*. They appear to be the ancestors of the modern cattle of the region. Another indication of their nature was afforded by the hoof-impressions which

[1] Allchin, *Utnūr Excavations* (1961), pl. 5*b*.

we collected (Pl. 5). These were as large as those of the largest cattle in the modern village of Utnūr.[1]

Of the other bones little can be said. It is to be expected that the deer represent wild animals, but the goats are of the normal domestic type. There is a complete absence of pig and of equines. Finally, two fragments of tortoise-shell were recovered from Site I E (7), but they have not been available for further identification.

7. ASH SAMPLES

A number of representative ash samples were taken from the excavation and are housed in the Andhra Pradesh Archaeological Department in Hyderabad. They were found by macroscopic examination to include all the varieties met with at other sites, from grey and creamy powdery ash, through partly fused slag of creamy, white and greenish tinges, to highly fused slag, resembling varieties of silica glass. The latter examples came from the 'ash wall' section in Site III. As the chemical analysis of the ash is a time-consuming labour and as the analyses available from other sites (see below, p. 86) are so satisfactory, and finally because the identification of the ash as burnt cow-dung is now established, we saw no useful purpose in further study at the present moment.

8. RADIO-CARBON DATING

A number of charcoal and bone samples were taken from the several periods of Site I, but only one so far has been tested by the radio-carbon method. This was a charcoal sample from Site I, square B, Layer 11*a* (excavated originally as B (9)) and dating from Period I B of the final report. It came from the dark sticky filling of the shallow cut. The sample was tested by the British Museum Research Laboratory in 1959 and a preliminary publication appeared in *Indian Archaeology* (1958–9), p. 11. The sample bears the reference BM 54 (UTN'59). The result of the test was that the sample had an age of 4120 years B.P. ± 150 years; that is, 2160 ± 150 years B.C.

[1] See Allchin, *Utnūr Excavations* (1961), pp. 54–64, for a fuller account, including a list of all identified cattle bones.

CHAPTER 4

OTHER ASHMOUNDS

The excavations at Utnūr provide, as it were, a vertical or stratigraphical view of our problem. In order to get a wider perspective and to see the historical phenomenon in a geographical light, it is also necessary to consider what other ashmounds have been discovered, what evidence they contain, and whether it supports or refutes that which we have obtained by our excavations. The list of sites which follows is rather in the nature of a gazetteer, but it is surprising how many of the sites we visited, and of those of which often no more than chance descriptions remain, support and broaden the evidence of the excavation. The casual reader may wish to leave aside this chapter and turn straight to the conclusion, but it is suggested that he should at least refer to the sections dealing with Kupgal, Kudatini, Gaudūr, Wandalli and Piklihāl to get some indication of the nature of the other sites.

The following list is drawn mainly from published sources, but whenever necessary I have added also my own field observations. I have also drawn upon the unpublished Notes of Dr Mahadevan to which reference has already been made. I have tried to draw together significant facts from the scattered reports upon some of the most famous sites; and I have occasionally interpreted the writings of others in the light of current knowledge. The bibliography is by no means complete, rather I have selected those items which contribute factual information: much of the published material is entirely speculative. I have marked with the asterisk (*) those sites for which I have included my own field-notes. A map showing the main sites is given in Fig. 1.

1. BELLARY DISTRICT

Kupgal 1 (*Survey of India: Kappagallu*)*[1]

This and the following mound have attracted much attention since they were first described by Newbold. It stands near the east end of the Kupgal hill, Bellary, south of the point at which the great trap-dyke emerges from the hill.

[1] T. J. Newbold, *JRAS*, VII (1843), pp. 129–36; R. B. Foote, *JASB*, LVI, pt. 2 (1887), pp. 259–82; Foote, *IPPA* (1916), pp. 90–5; H. Knox, 'Notes on the Kupgal rock paintings', unpublished typescript in library of Royal Anthropological Institute, London; R. Sewell, *JRAS*, XXXI (1899), pp. 1–16; B. Subbarao, *BDCRI*, VIII (1947), pp. 213–17.

When first described it consisted of a roughly square vallum rising to about 15 ft. on the north side with a shallow depression in the centre. The mound has been twice excavated, by Newbold and later by Knox and Fawcett. In the first case Newbold cut across from the summit of the mound to outside the ash wall, and also cut a pit from the centre of the summit to the base. The diameter of the walled area was about 31 yards, but that of the whole mound more nearly 60 yards. In the first cutting he discovered a greenstone spheroid rubbing-stone; in the second he recorded a sequence of strata as follows:

$4\frac{1}{2}$ ft. grey and white ash.

5 ft. mixed ash, some white some more or less vitrified.

1 ft. ashy earth and charcoal nodules.

$2\frac{1}{4}$ ft. dark earth.

3 ft. angular gravel detritus down to bed rock.

Newbold believed that the 'walls' were built up of blocks of ash, but the later excavations at the site and subsequent observations have tended to show that this was not so. Newbold also discovered quantities of rude pottery. Foote claims to have discovered several celts on the slopes of the mound 'among the cinder talus' as well as fragments of good red pottery. Later explorations have shown that the mound has been much damaged by various sorts of erosion. Subbarao recorded a mixed bag of pottery on the mound, while our own visit in 1957 noted fragments of broken granite saddle-querns, black-and-red B 1 ware, red B 3 ware and sherds of A 4 Neolithic ware.

Summarizing the results of these researches, it may be said that the mound contains two elements: a lower mound, about 8 ft. in depth, and an upper 'wall' of ash. The stratification of the lower mound begins with the layer of dark earth on the 'moorum' which here constitutes the natural subsoil. Over this there are several differentiated layers of ash, and finally the ash walls were added. The walls, from my own observation, represent *in situ* burning and in the lower levels they show signs of regular level lines of darker material, presumably representing the floor from which the ash accumulation started. The age of the mound is not established. The finds of early historic and Iron Age pottery are most probably to be accounted for by the continued existence of a settlement into later times all around this end of the hill. On the other hand the spheroid rubbing-stone and the stone axes, particularly as some at least appear to have been *in situ*, should belong to, and thus date, the ash-accumulation period.

*Kupgal 2**[1]

This slightly smaller mound lies about 350 yards to the south-east of Kupgal 1. It is roughly square and about 50 yards along each side with a maximum height of only 10 ft. Knox and Fawcett excavated the mound. They have left an incomplete description of the work in the MS. notes referred above. Knox writes that he and Fawcett cut a trench three-quarters of the way across the inside of the mound. The surrounding bank was about 5 ft. high, sloping on the outside and nearly perpendicular on the inside. In the centre they found nothing but ash, but near the outside they found fragments of pottery and bone, but no worked stone. The bones were taken by Fawcett to England and identified as mainly of rodents. They also found two stone axes (celts) *in situ* in a nearby ash-spread at the foot of the hill where it had been cut by a watercourse.

The mound lies amid the debris of much later occupation: the pottery which now scatters its surface and the surrounding land is almost entirely early historic, mainly of the B 3 red ware, with some B 3 black-and-red ware. A fine sprinkler neck of red-polished ware was found lying on the surface a few feet from the mound. The preponderance of later pottery on the surface, which Woolley and others have noticed, probably indicates no more than the continuity of settlement on the site, and provides a *terminus ante quem* for the ashmound. The other evidence points conclusively to the mound being of earlier date and to the later pottery being comparable to that from the post-ash layers of Utnūr.

Sanganakal (*Sanganakallu*) (*Sannarasamma hill*)*[2]

On the summit of the Sanganakal hill, known for its Neolithic and other remains since the time of Foote, Subbarao made a small excavation in the course of which he revealed fragments of ash in a Neolithic context. When I visited the site with Professor Subbarao in 1957 he pointed out a place on the north of the hill-top where a fine ash deposit is exposed on the surface. A similar occurrence was noticed at Piklihāl (below). Foote mentions another spread of cinder 'in a corner' of the Saudamma hill, but gives no other indications of its age or character.

Halakundi 1[3]

The village of Halakundi lies some 5 miles south-west of Bellary; south-west again near the foot of the 'Copper mountain' are two ashmounds. These are probably those mentioned by Newbold as lying at the foot of the Copper

[1] References as for preceding site.

[2] B. Subbarao, *Stone Age Cultures of Bellary* (Poona, 1948); Subbarao, *BDCRI*, VIII (1947); Foote, *IPPA* (1916), p. 94.

[3] Foote, *IPPA* (1916), p. 93.

mountain. The site is a little west of the main road and rail connection with Bangalore and close to a broad gap in the steep line of hills. The large mound is square in shape with external measurements of 60 paces on each side, the vallum or 'walls' are much broken by cattle. Foote records corn-crushers, stone hammers, mealing-stones and several potsherds, mainly of (? B 1) black-and-red and (? A) rough grey ware.

Halakundi 2

A smaller, very ill-preserved 'camp' roughly 30 yards square was noticed nearby by Foote, but no further description exists.

Gadiganūr 1 and 2* (Gādiganūru)*[1]

The site lies north of the village and traveller's bungalow, at the foot of the steep scarp of the Billakal Reserve forest 23½ miles west-by-north of Bellary. There are two small ashmounds, neither of any great height, separated by about 200 yards. All round and between the mounds there is a scatter of stone artifacts and pottery, ranging from Neolithic and Iron Age to early historic periods. It was difficult to find any well-sealed deposits, but such pottery as we found in association with the mound, or in exposed sections was of Neolithic A 1 and A 2 ware. Fig. 15, nos. 9 and 10 are two such sherds derived from a small rain-gulley in one of the mounds. The one is a characteristic disk lid of A 2 orange-pink pottery; the other a rim of typical A 2 grey burnished ware; we also found in this deposit two hammer-stones of magnetite. Very slight traces of a vallum of ash remain. The settlement area, which produced many stone axes and other typical finds of Neolithic date, as it had done earlier for Foote and Subbarao, makes it clear that the two ashmounds relate to a small Neolithic settlement at this site: the Neolithic age of these mounds is not in dispute.

Sanavāspur (Survey of India: Sanavāsapuram)[2]

The mound lies on the open plain, south-east of the village, and 16 miles north of Bellary. Foote describes it as an irregular oblong measuring 75 ft. by 55 ft. with a vallum 5–6 ft. high except on the north side where it was broken down. He writes of the Neolithic facies of the pottery found at this site, and examination of the specimens he collected confirms his view, for they include typical sherds of A 1 grey incised, and A 1 red ware.

Lingadahalli[3]

This mound is situated some 29 miles north-east of Bellary. It is approximately circular with a circumference of 254 paces. The surrounding vallum is

[1] Foote, *IPPA* (1916), p. 93. [2] *Ibid.* [3] *Ibid.*

low. The age is, according to Foote, unquestionably Neolithic, for inside the enclosure he collected with his own hand 36 celts, and 11 other objects of Neolithic facies, 166 flakes and 21 cores of chert, agate and chalcedony, and sherds which were probably of A2 grey ware.

Kanchagara Bellagallu[1]

The largest specimen of what Foote called the cinder mounds, as opposed to cinder camps (that is, all the examples mentioned so far), was near the village of Kanchagara Bellagallu, on the river Hagari, 25 miles north of Bellary. It was oval in shape, measuring 70 paces by 40. Foote records the discovery of a celt and many fragments of corn-crushers, mealing-stones and troughs (spheroid rubbers, ovoid rubbers and saddle querns) on the mound. From these he concluded that the site was Neolithic, and we agree.

Kurikuppa (*Kurikuppi*)[2]

A noteworthy ashmound is to be seen on Kurikuppa hill, 17 miles west-by-north from Bellary, at a Neolithic site that yielded many interesting specimens. Of these, mealing-stones and corn-crushers were actually embedded in the ash along with cattle bones. Foote expressly noticed the absence of human bones.

Sūgūru[3]

On the banks of the Hagari river, about 5 miles north of Kanchagara Belagallu and half a mile south of the village, is a small flat mound from which Foote could obtain no objects indicative of age, although he records a sherd of black pottery.

Kākbālla (*Kākabāllu*)[4]

Foote records a patch of cinder in a saddle of the hill and three small patches at the foot, none yielding anything to indicate the age. Pottery and selected stone objects found on the hill-top indicated Neolithic occupation. The site is about 5 miles west-south-west of Gadiganūr, and 26 miles west-by-north of Bellary.

Gudikallu[5]

A large cinder mound, about 16 miles north-east of Adoni.

[1] *Ibid.* p. 94.
[2] *Ibid.*; Foote, *JASB*, LVI (1887), p. 273.
[3] Foote, *IPPA* (1916), p. 94.
[4] *Ibid.*
[5] Subbarao, *BDCRI*, VIII (1947), p. 213.

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Nimbāpur (*Venkatapuram*)[1]

Although this mound is one of the most often mentioned, very little factual evidence has been reported concerning it. It lies between the villages of Nimbāpur and Ventakapuram, near the road, a little way outside the eastern entrance to the ancient city of Vijayanagar. Lying so near to this great medieval site, and being situated moreover in the heart of the region which has been known, at least since later Chalukyan times, as the Kishkindha of the *Rāmāyaṇa* story, it is not unexpected that the mound should have become associated with traditions and legends. None the less, these do not in our opinion provide any support for the wild theories of medieval holocausts, etc., advanced by Sewell, but rather call for intelligent factual evaluation in the context of observed facts. The mound as Newbold described it was 45 yards by 18 yards and about 10–14 ft. in height. It occupies a typical position at the foot of a rocky hill. It was covered in undergrowth when Munn photographed it and this probably accounts for Foote being unable to discover any datable enclosures in the ash.

Kudatini (*Būdikanama*, *Būdiguṇṭa*)*[2]

This mound is one of the largest and best studied and has produced some of the most important evidence relating to the ashmounds. It may even be one of the mounds referred to by Mackenzie, but its first proper description was by Newbold. Cole published a sketch of the site. The most important descriptions are those of Foote and Newbold. In the time of Longhurst the Public Works Department remade the road which runs beside the mound and in doing so destroyed a large part of it. Longhurst was apparently deputed to supervise this work, as representative of the Archaeological Department, and he afterwards published a brief account of it. It cannot be said to have produced any results whatever, and thus the largest excavation so far made upon any mound was nothing short of wanton destruction. The work of destruction continues, for in 1957 when we visited Kudatini the road-makers were still steadily cutting into the exposed side. At least this provided a clean section for our examination and made possible the recovery of the finds to be described below, but it should certainly be stopped. We shall first describe the mound in the words of earlier workers and then add our own observations.

[1] Newbold, *JRAS*, VII (1843); Foote, *JASB*, LVI (1887); Sewell, *JRAS*, XXXI (1899), pp. 1–16; L. Munn, unpublished photographs to amplify report to Indian research committee of the Royal Anthropological Institute on Lingsugūr ash-circle graves.

[2] Newbold, *JASB*, V (1836), pp. 670–1; Newbold, *JRAS*, VII (1843), pp. 129–36; Cole, *MJLS*, VII (1838), pp. 130–3; Foote, *JASB*, LVI (1887), pp. 262–73; Foote, *IPPA* (1916), pp. 79–80; Longhurst, *ARASI*, 1912–13 (1916), pp. 145–7.

Būdikanama or the ash pass lies on the main road from Bellary to Hospet, about 14 miles west of Bellary and 3 miles west of Kudatini village, at a place where the road crosses a low band of Dharwar rocks running north-west from the Copper mountain. On the pass the ashmound occupies a prominent position. Looking eastwards the Bellary hills, with their vast complex of Neolithic settlements, are clearly visible, and westwards there is also a good view. Two miles to the west is the small hill of Toranagallu where Subbarao reported Neolithic finds, and beyond and also within visual range are the hills above the mounds at Kurikuppa and Gadiganūr. At the foot of the hills to the west there is a fair-sized stream which provides a perennial source of water.

The mound itself was described by Newbold as being 46 ft. high and 420 ft. in circumference. This requires some modification. It is oval in form, and its original size appears to have been about 150 ft. along the long axis and 100 ft. along the short. The height at its apex, which remains well beyond the part the Public Works Department has destroyed, was, according to my estimate, only 25–30 ft. Newbold well described the form as dome-shaped and noticed that the ash projected from the sides in steps, some being semi-vitrified and some being softer. Foote went on to infer from the stepped nature of the sides that the ash could not represent one huge burning, but rather several. He observed that the ash formed layers 2–4 ft. thick. Between these layers, he recorded, there were thinner layers of made ground, and from these he obtained a ground stone axe and several mealing-stones and corn-crushers. He also spoke of bones, mostly bovine, but broken so that the marrow might be removed.

When we visited the mound on several occasions in 1957 a careful search of the slopes and immediate surroundings revealed no finds. However, we concentrated our attentions on the section exposed by the road-makers (Pl. 10). A rough sketch is given in Fig. 12. This shows that there are running right through the mound layers of ash of varying thickness. These levels are of great regularity and do not appear to tail away at the edges of the mound. The inference is that the outer parts of each layer have been eroded away during the course of the millennia and that no clear evidence survives (in this part of the site at least) for their original terminations. The exposed section was little short of 150 ft., almost as long as the mound itself, but curving slightly. Its maximum height was about 18 ft. but in the most clearly exposed part it was slightly less. The hard surface of the major ash layers had been used by the road-makers as levels to which they had worked, and consequently the stepped appearance was still observable, while the surfaces of the several layers were in places also exposed for inspection. Fig. 21 shows a sketch section: the lowest layers were

actually exposed for several square yards and these we scraped off to the surface of the natural moorum. The upper layers were only observed in section, but in the case of those which produced cultural debris they were traced for many yards along the face, so as to augment the meagre yield of materials. The following is the field description of the sequence, starting at the bottom and working up. The base of the mound is composed of extremely hard and compact reddish moorum; whether *in situ*, as I should incline to think, or artificially made, as Newbold opined, I am unable to determine. The surface of this moorum was certainly so level as to suggest that it had been prepared, although it slopes away slightly to the west (Layer 12). Over the moorum was a very compact layer of dark hard earth 1–2 in. in thickness and with a smooth surface. The surface had apparently been exposed to considerable heat anciently for it was scored with cracks (Layer 11), and on it was a thin smear of black. The obvious inference is that this layer, of which unfortunately no sample was taken, was a humus, perhaps enriched by cow-dung. Layer 10 was from 2 in. to 4 in. in thickness and consisted of a finer, less dense, brown-grey soil probably also containing humus. Above was Layer 9, the first ash, of about 1 ft. in depth divided into bands of 2–4 in. of varying colours. These probably relate to the different atmospheric conditions during a single burning. Layer 8 followed immediately above 9 and there was no visible trace of any earth make-up or levelling between them. It consisted of 5 ft. 3 in. of pale yellow-grey ash, often completely vitrified. There was no trace of any subdivision of the layer, although in some parts of the section the vitrification was less complete than in others. The inference is clearly that this represents a single enormous conflagration. The layer contained no traces of any other materials, although it was carefully examined over a very large area. Over the ash was a thin layer, of 3–6 in. in thickness, of a grey ashy soil, apparently a levelling (Layer 7) but producing no cultural debris. Above was more ash, 3–4 ft. thick (Layer 6). It appeared to be regularly bedded in layers of 3–4 in. and there was at least one major surface about 1 ft. from the top. In the base of this ash there was one of many large burrows, apparently the work of porcupines, whose quills are to be found in the neighbourhood. It is noticeable that only very rarely in Layer 6 was the ash vitrified, but more generally it was of a pale greyish powdery nature. This probably indicates that it had burned at a lower temperature than Layer 8. The tendency to bedding which we have noticed now assumes considerable interest since it may indicate some sort of annual cycle of accumulation, while the major surfaces indicate a less frequent cycle of burning. Layer 5 was a fine grey powdery ash and soil mixture about 4–5 in. deep; over it Layer 4 appeared as a darker, powdery, almost sandy, soil which produced a regular scatter of intrusive

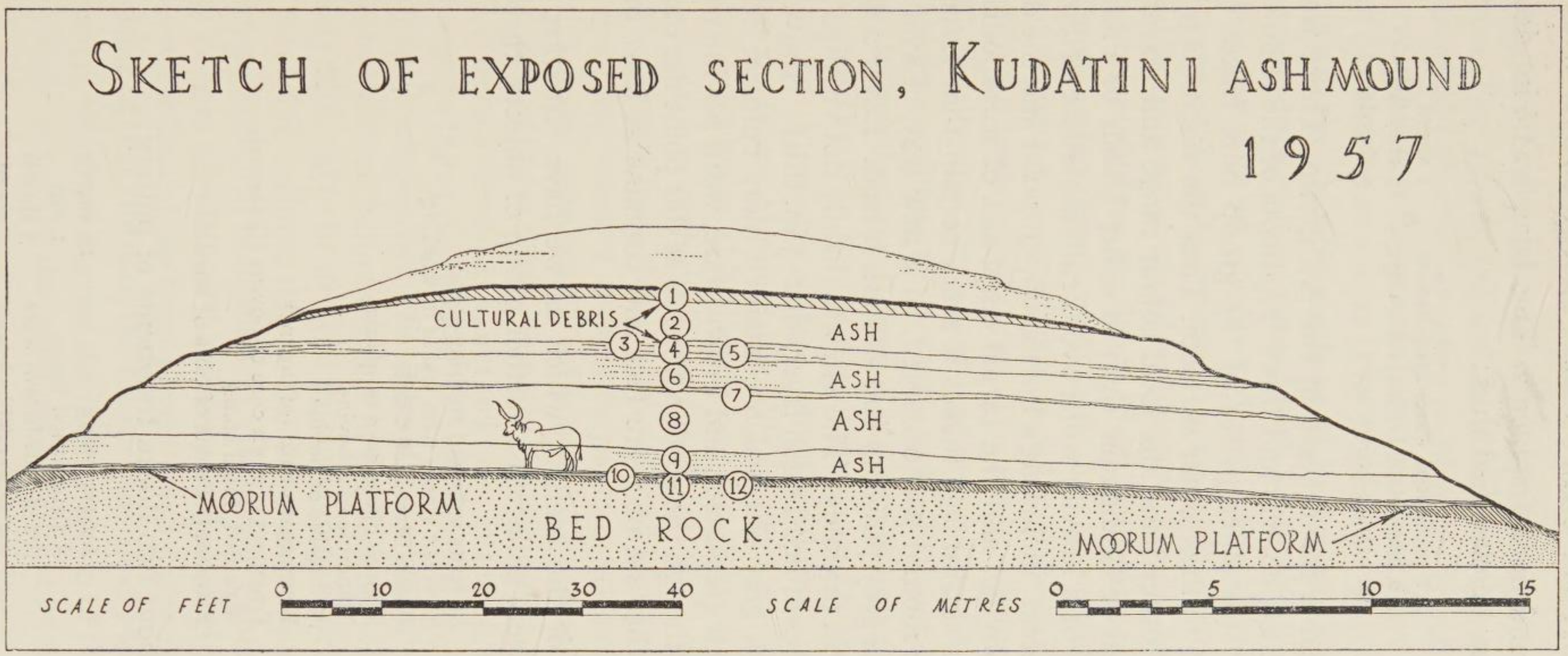


Fig. 12. Sketch section of Kudatini ashmound.

stones, potsherds and bone fragments. This layer was 6 in. deep. There were 21 sherds, they may be classified thus:

A 1 rusticated ware, grey-brown	1 sherd
A 2 grey-black burnished ware	17 sherds
A 2 orange-brown ware	3 sherds

The only recognizable forms were in the A 2 group. There was the rim of a typical vessel (Fig. 15, no. 12) and three fragments of the shoulder of the same vessel. These and two other pieces of the group bore traces of unburnt red ochre wash applied to their outer surfaces. Thus the assemblage resembles that of Utnūr. On the other hand the local colour range and texture are closer to those of Sanganakal or Gadiganūr than to either Utnūr or Piklihāl. The layer also produced half of a heavily worn ovoid rubbing-stone of pink granite, and several bone fragments, including a bovine upper molar and the distal end of the tibia of a young bovine, and the carpal epiphasis of metapodial of (?) a calf. The nature of this assemblage makes it seem certain that Layer 4 represents a period when the mound was occupied, in a new way. Layer 3 consisted of another 6 in. of fine grey powdery soil and ash mixed. Layer 2 was another ash layer of about 4 ft. in thickness. The ash was mainly not vitrified and once again it showed clear traces of bedding in layers of 2–3 in. thick. Above it was exposed a final layer of dark grey soil which contained more cultural debris, including further sherds of A 2 grey-black and brown ware, worn bovine molar teeth, and selected stones. Although the section finishes at this point the mound continues upwards for a further six or more feet and contains at least one, if not two, further ash levels.

Along the face of the section, which as we have remarked has been but recently cut into, were collected a further group of objects, these included:

Dolerite spheroid rubbing-stone	1
Selected stones with traces of working	2
Flakes of worked basalt	2
Minute blade-flake of quartz	1
Mandible of a bovine	1
Astragalus of bovine	1
Fragments of rib (of bovine)	2
Fragment of horn core of bovine (?) (heavily calcified, fossil state)	1
Fragment of shaft of tibia of bovine	1

There were also about two dozen fragments of pottery:

A 2 grey ware	16 sherds
A 1 rusticated ware	1 rim
A 2–3 buff-brown ware	5 sherds
A 5 red-and-black ware	1 sherd

The A2 grey ware sherds all exhibited typical Neolithic burnish. They included a typical rim form (Fig. 15, no. 11) and the shoulder of a medium-sized vessel. The rim had traces of unburnt red ochre paint upon it. An A1 rusticated rim was also quite typical of the forms associated with the ware at Piklihāl,[1] it was in a nondescript blackish-brown ware (Fig. 15, no. 13). The A2–3 ware presents a similar difficulty to the classifier as those of Brahmagiri and Sanganakal. The outer surface appears to have been treated with a thin red slip or dressing before firing and to have burnt to an uneven red and orange-brown, patchy, colour. The inner surface is either red or orange-brown, while the body has often fired to a fine red. No forms were obtained in this ware, but the large, bold size of the sherds and their resemblance to sherds from Brahmagiri suggest that they belong to the Upper rather than Lower Neolithic. One sherd has an incised, or rather burnished decoration consisting of broad shallow bands of about 2 mm. width separated by intervals of 7–10 mm. The marks were probably made with a chicken bone. Finally, one tiny sherd was recovered of a distinctive type of black-and-red ware, resembling the A5 ware of Piklihāl and characteristic of the Upper Neolithic rather than the Lower. This ware is certainly not the typical B1 black-and-red of the Iron Age, nor is it the later B3 black-and-red of the Early Historic period. The outer surface, which has been burnished, is a mixed orange-red, showing traces of minute crackle under a 10× glass, the concave inner surface is of good black with slightly more marked crackle and also traces of burnish. The surface in both cases has fused.

To sum up the evidence from this site: the mound is situated on a lonely pass some distance from any trace of ancient or modern habitation. The base is a levelled area of moorum upon which there is a dark earthy accumulation over which there are repeated layers of ash. Some of the less-vitrified layers show traces of a bedding of between 2 in. and 4 in. in thickness, but these relate to deposition rather than burning. In the upper third of the section there are sandy earthy layers which show evidence of settlement. The cultural assemblages collected from these layers and from the surface below the face of the section, where the fragments may be reasonably inferred to be derived from the same sources, belong entirely to the Deccan Neolithic culture: they are, in so far as comparable, closer to the remains from Sanganakal and Gadiganūr than to those of either Utnūr or Piklihāl. They also show certain affinities to the pottery of Brahmagiri. When compared with the pottery of Piklihāl, those from Layers 5 and particularly 2 are nearer to the Upper Neolithic of that site than the Lower, but the evidence is so slight that this may be illusory. We shall discuss the interpretation of this evidence and its meaning in the whole context of the ashmound tradition in the final chapters.

[1] Cf. Allchin, *Piklihāl Excavations* (1960), pl. 28, form 20.

2. RAICHŪR DISTRICT

*Hire Benakal**[1]

This site was first discovered by Munn (*c.* 1932), but I have been able to find no written description of it. The mound lay at the foot of a hillock 3 furlongs north-east of the village, and about 1 mile north of the famous grave site to be mentioned in the following paragraph. When I visited it in 1957 nothing remained except a thin scatter of lumps of vitrified ash at the foot of the hill. The greater part of the mound, which originally jutted out into cultivable land has since been taken under the plough, but in Munn's photographs it can be seen that there was an ash wall or vallum of roughly circular form running out from the foot of the hill. The wall already appeared to be much eroded and stood to a height of not more than 2 ft., and a width of about 6 ft. The site thus resembles one of Foote's 'cinder camps'. Its original size is not known. There are many stone circle graves of Iron Age date lying around the foot of this hill and many fragments of black-and-red B 1 ware were discovered, none however in any definite association with the mound. Several cart-loads of lumps of ash had recently been dumped on some of the graves. There is no other clue to the age of this mound.

*Chikka Benakal**[2]

This site lies about 1 mile south-by-west of the preceding one and 1 mile east-south-east of the village of Chikka Benakal. The main Benakal grave site is on top of the escarpment, on a plateau. The graves belong, as far as can be stated, exclusively to the Iron Age. Below the escarpment there is a further group of graves, lying on the stony ground beyond the fields. In 1952 when I visited the site, there were about forty graves in this group. Munn noticed that some had a scatter of 'ash' laid on them. The graves are of similar types to those from Lingsugūr, where a similar use of ash was noticed. There are no visible signs of an ashmound near the graves, and it is possible that it was derived from the Hire Benakal site. Typical sherds of black-and-red B 1 ware were found in the vicinity.

*Sivapur**[3]

This most interesting site was discovered by my wife and myself in 1952, and revisited in 1958. It lies a short distance north of the river Tungabhadrā, some 7 miles west of Hampi and the ancient city of Vijayanagar, and a short

[1] Munn, *JHGS*, II, pt. 1, p. 124; Munn, unpublished photographs to amplify report to Indian Research Committee of the Royal Anthropological Institute.
[2] Munn, *JHGS*, II, pt. 1, p. 124; Allchin, *Man*, no. 114 (1955).
[3] Allchin, *Man*, no. 114 (1955).

distance south-east of the village. The main site consists of a group of caves in a little line of rocks; to the north of the caves are a number of open spaces enclosed on all sides by natural barriers of rocks and producing further cultural debris. Beyond this settlement-area are two extensive Iron Age grave sites. The caves contained deposits including plentiful pottery and other remains of Neolithic and Iron Age date. In one of the open spaces we discovered in 1958 a small ashmound, being oval in form and about 50 ft. by 30 ft. and of no more than a foot or so in height. The whole mound was sprinkled with fragments of quartz and river-washed quartz pebbles, but none were worked or had traces of use. Fragments of black-and-red B 1 ware and broken querns and rubbing-stones of granite were found associated with the mound.

Piklihāl (*Pāklihāl*)*[1]

The extensive Neolithic and Iron Age remains at Piklihāl were discovered by my wife and myself in 1952 and excavated by us in conjunction with the Hyderabad Archaeological Department in the same year. Three occurrences of ash were recorded there.

(*a*) To the south of the central hillocks the fields are strewn over an area about 100 yards square with fragments of vitrified and partly vitrified ash. A field-wall which runs across this area is made up entirely of great blocks of ash. The contours of the ground suggest that there was formerly here an ash-mound of considerable size which has now been destroyed by agriculturalists. It is probable that excavation would reveal the lower levels still undisturbed.

(*b*) Two hundred yards south of the above site is a group of Iron Age graves. At least two have careful scatters of small fragments of ash upon them. Both here and at the sites of Chikka Benakal and Lingsugūr this ash has been applied with such care that there can be no doubt that it was done by the original makers of the graves, rather than by later agriculturalists. The graves at Hire Benakal, on the other hand, had been roughly covered by dumps of ash which cultivators had recently cleared from their fields.

(*c*) High up on a little saddle, west of the excavated Site VII, an exposed spread of ash was recorded, reminiscent of that noticed at Sanganakal and other sites in Bellary.

*Lingsugūr**[2]

For over a century the cantonment area at Lingsugūr has been producing antiquities, in the shape of blades of chalcedony, and of black-and-red pottery.

[1] Allchin, *Piklihāl Excavations* (1960), p. 10.

[2] Munn, *JHGS*, II, pt. 1; Munn, *Man in India*, XV (1935), pp. 225–50; Munn, *ARHAD* (1927–8), app. C; Allchin, unpublished Ph.D. thesis, 1954, pp. 67–8, 178–184.

The latter came from an extensive series of graves which lie scattered over several miles. Foote first discovered a great Neolithic settlement at Billamrayan Gudda hill, 2 miles to the west, and this has since been extensively searched by Munn and myself. Munn also reported an axe factory on the great trap dyke which runs to the south of these sites. Attention was first drawn to the graves by Munn's excavations of a group which had hitherto been submerged in the tank. The pottery and grave goods make it clear that they belong to the Iron Age, even if their precise affinities cannot yet be traced. However, the grave types were of a distinctive kind so far only reported at Benakal and at Piklihāl. They are built upon a square platform outlined with small stones and filled in with gravel and chippings, a typical example from Lingsugūr was 40 ft. square. Sometimes there was a further circle of large stones inside the square, and inside this was a regular scatter of fine ash. In one case (perhaps where ash was not obtainable) it was found that white nodules of *kankar* took its place. The width of the ash forming the circle was on the average from 4 ft. to 5 ft. In the centre stood a large stone cist of some 10 ft. by 12 ft. In no recorded examples do graves of this type have capstones, but in almost every case there is a small entrance-way to the cist: the orientation is south to south-south-east. The presence of fragments of vitrified ash indicates that this cannot be the product of an ordinary small funeral pyre, and the proximity of graves to known ashmounds in two of the three cases, with the substitution of white *kankar* in another case where no mound was available, may be taken to indicate that it was derived from existing mounds. In this connection it is perhaps worth noting that about 400 yards south of Billamrayan Gudda, just north of the track from Lingsugūr, I noticed in 1952 a large spread of fine white material. At the time I took this to be *kankar*, but the probability has since occurred to me that the substance was ash and that this was the site of a mound, located in relation to the site just as that at Piklihāl. If so, then it would be the obvious source for the nearby grave ash. At that time I had not visited any ashmound and was unprepared for this eventuality. Thus I neglected to take samples of the white material.

Yergunti[1]

Munn mentioned an ashmound at the village of Yergunti, on the track about $4\frac{1}{2}$ miles north-west of Billamrayan Gudda, and 6 miles from Lingsugūr, but gave no further particulars of it. The later report mentions flakes of chert and agate on the surface of the mound.

[1] Munn, *JHGS*, II, pt. 1, p. 124; Yazdani, *ARHAD* (1935–6), app. A.

Kurkundi[1]

The same writer mentions another mound between the villages of Kurkundi and Patkandoddi about 25 miles east of Lingsugūr on the road from Raichūr to Hutti. No further details are given.

*Wandalli**[2]

This and the following mound are the most important of the Lingsugūr group. Attention was early drawn to them by Foote's publication of an analysis

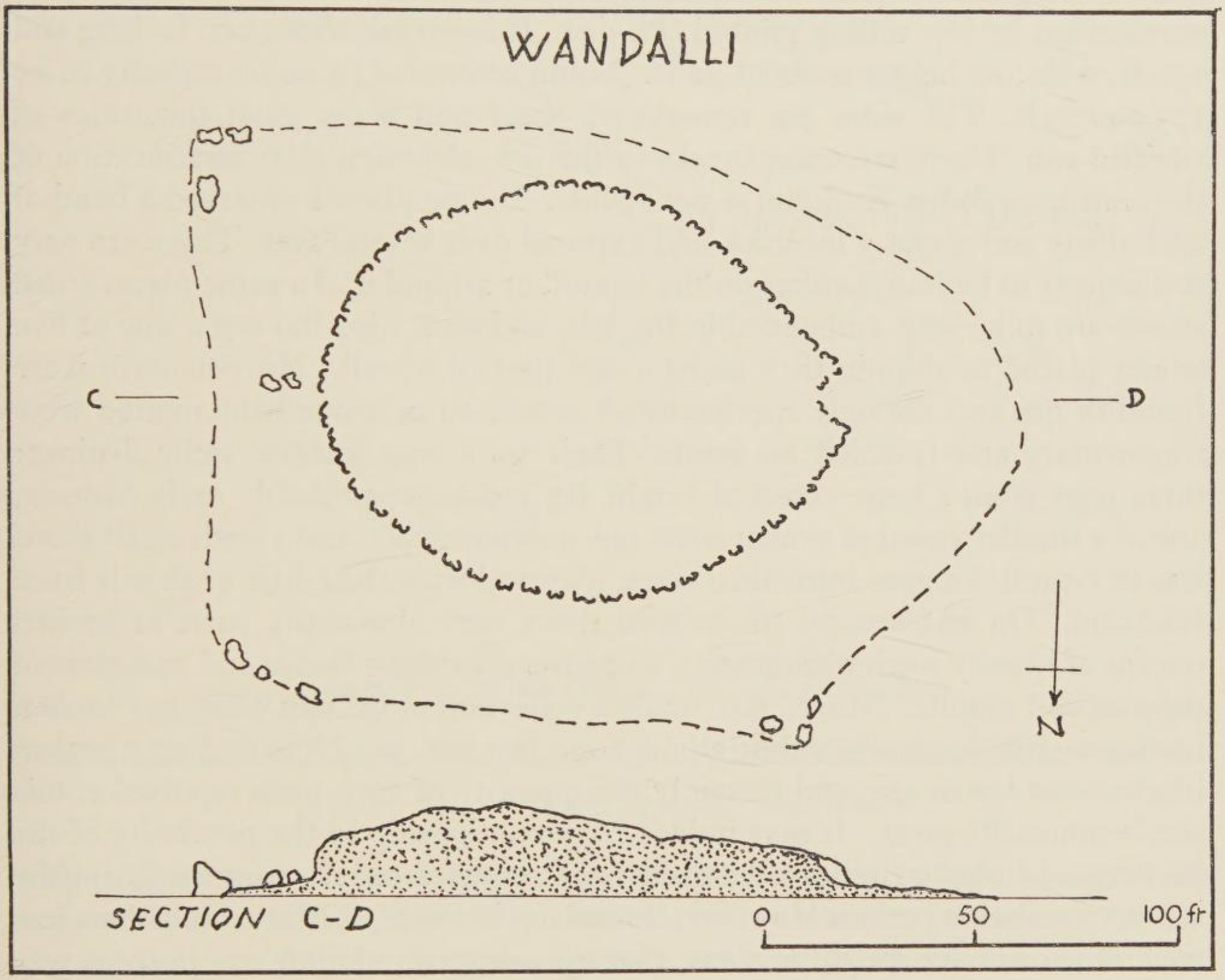


Fig. 13. Plan of Wandalli ashmound (after Munn).

of a sample by a gold-mining engineer, Bosworth Smith, and they continued to attract the attention of miners from Hutti. Maclaren wrote a report on the Hutti

[1] Munn, *JHGS*, II, pt. 1, p. 124.
[2] Foote, *IPPA* (1916), p. 95; Munn, *ARHAD* (1927–8), app. C; Munn, *JHGS*, II, pt. 1, pp. 126–9.

gold-mines which included a section upon the ashmounds, but it is unpublished and I have never seen it. Munn published a plan and brief description, but this tells little. He records that when he first encountered the mound he thought it to be a calcareous spring (Fig. 13).

The mound is about 400 yards north-west of the village of Wandalli, 6 miles east of Hutti. It stands on the red soil near the junction with the black, and is surrounded by ancient gold workings. Munn records two dozen great mullackers lying near artificial hollows in the rocks in this neighbourhood, and such mullackers were again used to crush the ore-bearing quartz at the Hutti mines within living memory. The mound is on a little level eminence, or platform, surrounded by low rolling ground (Pl. 9*a*). It is overall about 200 ft. long and 150 ft. wide; its height is about 22 ft. Munn estimated its cubic capacity to be 175,000 cu.ft. The sides are remarkably sheer and show great quantities of vitrified ash. There are some breaks in the ash, although clear stratification of the kind recorded at Kudatini is not visible. In one place I observed a band of dark dusty soil about 3 in. thick and exposed over several feet. There are very few objects to be found either on the mound or around it. In some places small stones are to be seen embedded in the ash, and once near the top a line of five stones placed as though they had formed part of a wall. No potsherds were found *in situ* and the only specimens recovered on or around the mound were fragmentary and revealed no forms. Their ware was however quite distinct: three were from a large vessel of bright B 3 red ware, probably early historic, one of a smaller vessel of similar ware, one indeterminate, and a sixth small sherd was of typical A 2 grey burnished ware, identical with the fabric of sherds from Kudatini. On and around the mound there were also many parts of broken querns of heavily worn pink granite, and several rubbing stones and hammers of dolerite and granite. Munn, too, made a collection of heavily worn and broken hammers, rubbers and grinding stones from this site, as well as finding a broken blocked-out basalt axe, and certainly the quantity of such tools reported at this site is unusually great. It may indeed have relationship to the proximity of the auriferous bands, and indicate that gold-working was already in progress during the ash-accumulation period. However, it need not indicate, as Munn and others less well informed have sought to show, that the ash accumulation was in some way connected with gold production. This view may be firmly denied, for the majority of the mounds neither carry suggestions of gold-working, nor are they found in the vicinity of gold-mines. Hence, to argue in this way is to invert the order of evidence and to miss the true significance of the mounds at Wandalli and Gaudūr.[1]

[1] I discuss this evidence again in my paper on 'The methods and antiquity of gold mining in ancient India', *Journal of the Economic and Social History of the Orient*, vol. v, pt. II (1962), pp. 195–211.

Gaudūr[1]

This site was first noticed by Bosworth Smith, whose sample of ash was reported by Foote. It lies just north of the Gaudūr village on the track from Machnūr, and is about $4\frac{1}{2}$ miles north-west of Wandalli. Munn published a plan of the mound and also noticed an exposed section in one place where villagers were digging out the ash to use it as colour wash on their houses. We shall discuss this section below. In 1957 and 1958 I made several attempts to reach the mound, but I found that there was no motorable road within miles,

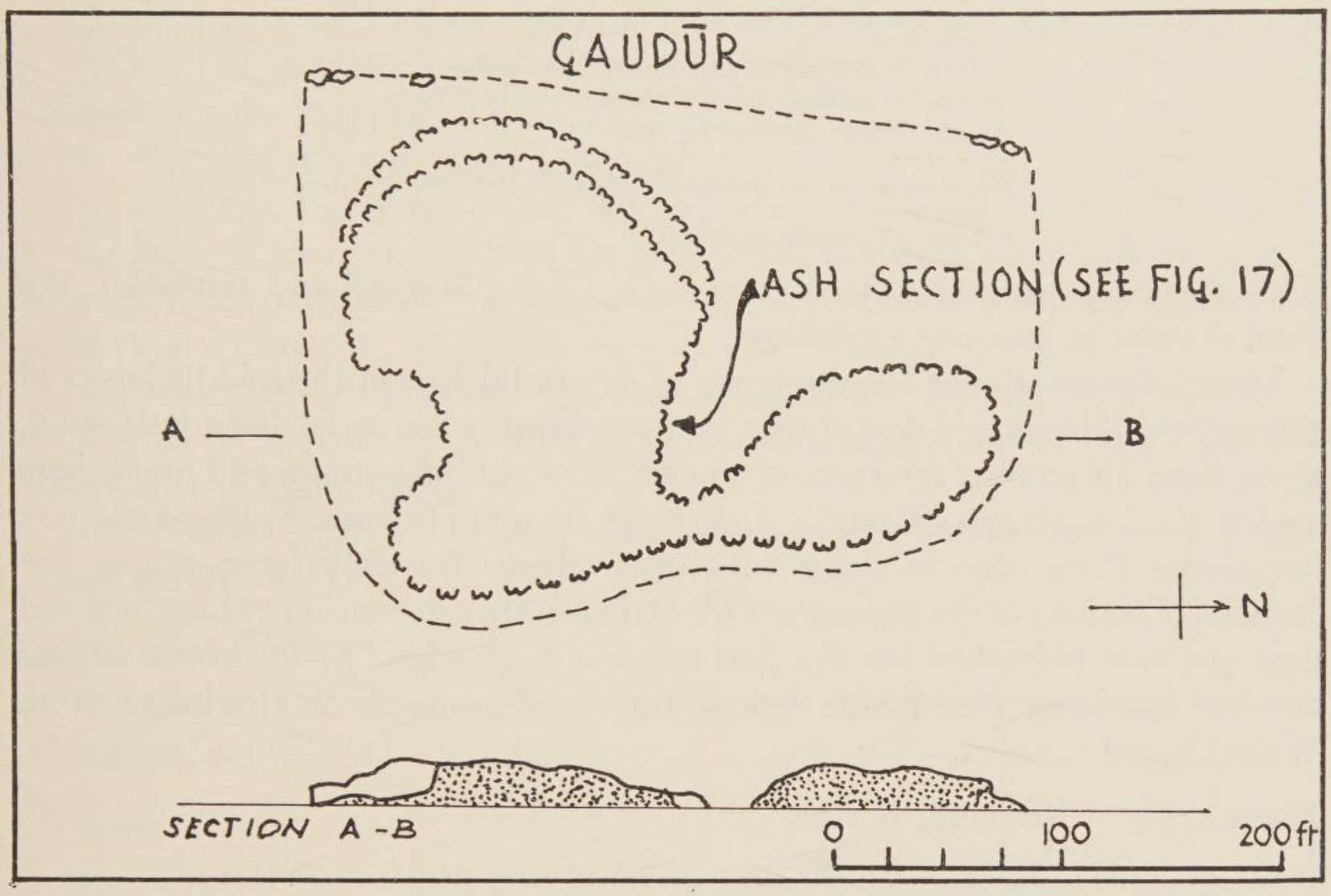


Fig. 14. Plan of Gaudūr ashmound (after Munn).

and as there were continued outbreaks of cholera in the village I judged the moment inopportune and no other chance arose to visit it.

According to Munn's plan the total area is about 325 ft. by 250 ft., but the actual mound does not measure more than 300 ft. by 185 ft. It seems to have been originally of oblong form with the long axis north-to-south, but the activities of villagers have driven a great wedge into its north-western corner and another into the southern side (Fig. 14). The maximum height of the mound is not greatly in excess of 10 ft., but in one place Munn mentions a

[1] Bibliography as for Wandalli.

figure of 25 ft. This is surely an exaggeration. The exposed section, of which Pl. 9*b* is a reproduction of Munn's photograph, was at a point near the centre. The actual height of the exposure from top to bottom was only 7 ft., but the mound continued down below the foot of the exposure. Munn also published a tracing of the section showing the nature of the layers and this has been copied in Fig. 21. The sequence was as follows:

Typical pale creamy ash	23 in.
Pinky brown sandy layer	3 in.
White powdery ash	12 in.
Regular layered bands of about 1 in. thick of darker earthy material containing charcoal, stones, bones, potsherds, etc.	12 in.
White loose ashy layers with stones embedded	30 in.
Ashmound continues down.	

This sequence resembles features of both Utnūr, Kupgal and Kudatini. We shall discuss its meaning elsewhere.

Munn also mentioned the discovery of cultural debris in the middle layers of the section. No proper description of these remains has so far been published, apart from his passing reference to quantities of rubbing-stones and mullackers and of the long-bones of cattle. I chanced, by good fortune, to discover a box containing these objects along with others from Wandalli (now among the Indian collections of the School of Oriental and African Studies of London) and they are now published for the first time. I have added to the stone objects another specimen identifiable from Munn's photograph of specimens from Wandalli and Gaudūr.

Bones

Vertebra, bovine
Vertebra, bovine
Vertebra, bovine
Distal end of right humerus, bovine, large size
Distal end of left humerus, of small adult
Distal end of left humerus, bovine
Distal end of right femur, bovine
Distal end of left femur, bovine
Distal end of right femur, bovine
Radius, bovine
Canon bone, bovine
Canon bone, of adult of small bovine
Astragalus, bovine

Stone objects Fragment of rectangular palette stone of granular quartz
Spheroid rubber, unknown material
Various rubbing-stones

Pottery: A ware

1. Rim of heavy bowl of A2 buff-brown ware (Fig. 15, no. 1).
2. Rim of similar bowl of coarse clay, this sherd has fused ash adhering to its surface and section (Fig. 15, no. 2).
3. Sherd of similar ware to above.
4. Sherd of grey A1 ware with buff-pink oxidized surface sherd of similar ware.
5. Rim of globular vessel of much-damaged A3 red ware, with fused ash adhering to surface (Fig. 15, no. 4).
6. Sherd of micaceous A2 grey ware.
7. Sherd of highly micaceous A3 buff ware.
8. Base of much-weathered A2 grey ware, having a small hole, *c.* 1 in. in diameter, apparently deliberately punched in the centre, and an applied ring foot (Fig. 15, no. 5).
9. Apparently part of a similar base of distinctive A3 red ware, reminiscent of sherds from Kudatini and Brahmagiri, with suggestions of purple paint on outer surface (Fig. 15, no. 6).
10. Narrow neck of A2 grey ware with remains of unburnt ochre painted band around top (Fig. 15, no. 3).

B ware or *AB ware*

11. A single sherd of a typical early B ware or AB ware rim, with good red fused surface (Fig. 15, no. 7).

D ware

12. Typical rim of dark-grey D ware, most probably modern (Fig. 15, no. 8).
13. Typical sherd of similar ware, also certainly modern.

Some comment may be useful to elucidate these finds. The pottery appears to date the mound. All except three of the sherds are Neolithic and several are burnt or have fused ash adhering to them. They may be accepted as those Munn obtained from the section. The cattle bones are in a similar condition and many of the distal ends show that they have been cut in order to extract the marrow. This was also noticed by Foote in bones from Kudatini, and it was further noticed in cattle bones from the occupation areas of Piklihāl. There are no bones other than bovine present, but there seem to be two distinct breeds, the one a great, heavy, version of *Bos indicus*, the other a much smaller and lighter animal,

perhaps the ancestor of the modern smaller breeds. This feature, too, we have noticed at Utnūr. The typology of the stone tools is also quite consistent with a Neolithic dating. The pottery forms may be noticed: the A2 ware bowls are characteristic of the Neolithic potter and have been recorded in every site so far excavated; again the ring-footed vessels in A2 and A3 red ware remind one of ring feet from Piklihāl; the A2 painted neck is also well within the range of Neolithic types and may be compared with plain and painted forms (type no. 25) from Piklihāl; the single sherd which it is difficult to place chronologically is the A1 or AB red ware rim which certainly could belong to a late Upper Neolithic–Iron Age period. Unfortunately, we do not know where exactly this interesting piece came from, but it may have been picked up as a stray in the same way as the two modern sherds included in the assemblage.

Mānvi[1]

Munn records the discovery of an ashmound at the north-west angle of the Mānvi hill. In 1952 I visited the hill, which has an extensive early historic settlement at its eastern end and an area producing black-and-red B1 ware to the north-west which almost certainly contained stone circle graves. Here Munn discovered the remains of a stone alignment, which during the last twenty-five years has been totally destroyed. The angle of the hill lies farther west again. Here I made a short search but was unable to locate the ashmound. Munn reported finding broken rubbing-stones and potsherds in the mound.

*Sirwār**[2]

In the field west of the 1616′ hill is an early historic settlement. A fragment of unmistakable 'ash' was found there in 1952, but I have been unable to return to re-examine the site. Neolithic artifacts were reported in the vicinity.

Budinni (*Budīni*)[3]

The discovery of an ashmound is mentioned 1 mile north of the village of Budinni (on the road from Hutti to Raichūr), in lands of the hamlet of Huvinbhavi formerly belonging to the Gurgunta Samasthān. No further information is given.

Other sites in Raichūr district

ARHAD (1937–8), p. 7, mentions the discovery of other ashmounds on the lands of Manslapur village in Raichūr Taluk and at Kallūr, the well-known Neolithic settlement west of Raichūr town. However, several other workers

[1] Munn, *JHGS*, III, pt. 1, p. 77.
[2] Allchin, unpublished Ph.D. thesis, 1954, pp. 205–6.
[3] *ARHAD* (1937–8), p. 7.

including myself have visited this latter site without noticing any ashmound: the report requires further confirmation.

ARHAD (1935–6), app. 4, mentions the discovery of an ashmound surmounted by a temple west of the village of Kavitāl, but when I visited the site in 1951 I did not notice this feature and it must remain uncertain until it can be further investigated.

3. MAHBŪBNAGAR DISTRICT

The following sites lie in the eastern part of the Raichūr Doāb and were formerly in the old Raichūr district. Since the division of Hyderabad State they have been included in the Mahbūbnagar district of Andhra Pradesh.

*Utnūr**

The mound at Utnūr (which Munn named after the village of Īdguanpalli) is described in detail in chapters 2 and 3 above.

*Machanpalli 1 and 2**[1]

There are two scatters of ash on either side of the track from Machanpalli to Mirdoddi, about $3\frac{1}{2}$ miles north-west of the Utnūr mound. Both heaps are in sadly depleted condition and no datable remains were noticed. The sizes recorded by Munn were about 100 ft. by 50 ft. by 5 ft. in each case.

Talmari–Kutuknūru track[2]

Munn records a large ashmound north of the track about 1 mile west of Kutuknūru and a few furlongs from the banks of the Tungabhadrā river. He described it as being oval in shape, 280 ft. by 250 ft., and 20 ft. high, he also records that a few broken pounding-stones were picked up on the edge of the mound.

4. GULBARGA DISTRICT

Benkanhalli[3]

On the track between the villages of Benkanhalli and Halisugūr, near the north of the former, there are the remnants of an ashmound, about 46 ft. by 16 ft. and 7 ft. high, composed of typical slaggy, scoriaceous material. A photograph is included as pl. x, 1 of the above-mentioned volume. This site lies within 2 miles of the famous Shāhpur, where Meadows Taylor reported

[1] Munn, *JHGS*, III, pt. 1, p. 79.
[2] *Ibid.*
[3] Mukherjee, *JHGS*, IV, pt. 1, p. 54.

his unique 'Tumulus' with its great stone surrounds. Munn reported the tragic destruction of this site at the hands of road-makers. In the same locality, Taylor and others have reported many other stone alignments, graves and remains, and there can be no doubt that in the Iron Age the area was of some importance. The presence of an ashmound is thus of added interest.

Thanmandi Thanda[1]

Dr Mahadevan reports, 'At the foot of a group of gneissic hills, near a perennial source of water, is a cinder mound now of much smaller dimensions than it must originally have been. It now measures 100 ft. in diameter and 15 ft. in height. It is situated on the Wajal–Srinivāspur track. Many rubbing-stones of basalt, gneiss and sandstone were found strewn about the mound and ground stone axes were picked up in the neighbouring fields. Ash was also found scattered over the neighbouring fields, no iron slag was noticed.' The site lies about 14 miles west-south-west of Surapur, and 2 miles south-east of Wajal.

Hanamsāgar–Kodekap path[2]

This site lies about 2 miles north of Hanamsāgar, amidst a group of gneissic hills, in a protected valley near a temple of Halakalappa. Dr Mahadevan notes that this site may well have carried its sanctity into historic times from the more remote past. There are sometimes large caves in the hills overlooking the scene; that of Chandrāmmāgavi was about 100 ft. in length, although nothing of importance was noticed. The ashmound is east of the temple, almost touching it. It is now about 150 ft. in diameter and 15 ft. high. A stone circle consisting of huge boulders of gneiss and basalt stands on the top. The mound contained pottery, rubbing-stones and mud balls, about 2 in. in diameter. A stone alignment of colossal dimensions lies only about 2 furlongs east of this mound. I have described this monument elsewhere.[3] The presence of the stone circle on top of this mound may be taken to indicate that it was already in existence before the vogue for stone circles and alignments during the Iron Age.

Mallūr[4]

The site lies about one furlong north of Mallūr, about 19 miles west-by-south of Surapur, and 7 miles west of the mound at Thanmandi Thanda. It is a small

[1] Mahadevan, *JHGS*, IV, pt. 1, p. 160; Mahadevan, unpublished 'Note on the archaeological finds in southern and south-western Shorapur Taluk'. I am greatly indebted to Professor Mahadevan of the Andhra University, Waltair, for permitting me to use his valuable notes.

[2] Mahadevan, *ibid.*

[3] Allchin, 'The stone alignments of Southern Hyderabad', *Man*, LVI, no. 150 (1956), where further references are given.

[4] Mahadevan, *JHGS*, IV, pt. 1, p. 160; Mahadevan, unpublished 'Note'.

mound locally called *Būdimatti*. Its present extent is little more than 20 ft. in diameter and 5 ft. in height, but it must originally have been much greater. Ash is strewn over the neighbouring fields. Rubbing-stones and granite querns were found in its vicinity, along with parts of stone artifacts, potsherds and flakes of agate. Many other ancient sites were recorded in the vicinity.

Rājan Kallūr[1]

Around the village of Rājan Kallūr, lying about 4 miles north-east of Thanmandi Thanda ashmound, there are very many stone cist and circle graves. Among them Mahadevan noticed some with ash circles spread around the stone cist, in much the same way as reported at Lingsugūr above.

Kupi[2]

On the track between Kupi and Dimanhāl villages, about 3 miles north-east of Rājan Kallūr, there is another grave site where Mahadevan noticed that about twenty dolmen graves have ash circles around them.

APPENDIX

RELATED ARCHAEOLOGICAL SITES

The ashmounds we have thus enumerated form a unique phenomenon. At first sight it seems probable that, when so much of the Indian subcontinent has been so fully explored archaeologically, if further sites of this sort existed they would have been noticed. But this is perhaps too optimistic a view. We shall now notice such slight evidence as there is of the existence of related ashmounds outside the Deccan.

The strongest evidence at present available is not of an archaeological nature. It is afforded by the place-names we shall be considering in a later chapter. There appears to be a general correspondence of certain place-names with ashmounds, and at least this may form a clue for further exploration to the south and east of the known distribution. A similar clue is afforded by the archaeological link of the ashmounds and the Deccan Neolithic culture. It is reasonable to expect further ashmounds to occur wherever sites of this culture are found.

Information of a more vague nature is available concerning ashmounds elsewhere. I have a report, of no very certain nature, that a local historian at Ujjain had noticed some ashmounds, traditionally associated with some sort of legend not unlike those connected with the Deccan ashmounds, in the Malwa plateau

[1] *Ibid.* [2] *Ibid.*

in the region of Nagdā. But I have no precise information regarding these sites, and only hesitatingly include mention of them here in the hope that they may be further investigated in the light of the Utnūr excavations.

Similarly vague information comes from Northern Iran. According to Jackson there are in the region of seventy ashmounds or Gaur tepes around lake Urmiah. These are particularly found near Degalah where the largest mound is situated, and to the west of the lake, also to the south around Solduz. Not all the tepes in the area are ashmounds, but some are composed wholly or almost entirely of ashes of a whitish colour. The Degalah mound is some 300 yards long and 100 ft. high, and the alkaline qualities of the ash are used for saltpetre. The mound is much tunnelled and burrowed into. There are strata of soft earth and of solid ashes alternating, the ashes being sometimes of several feet in thickness. This mound is also said to contain quantities of pottery and brick walls. At Lakki, 13 miles north of Urmiah, there is a hill said to be composed entirely of ashes. However, our suspicions are aroused when Jackson goes on to mention Geog tepe, south-east of Urmiah as another mound.[1] This has since been excavated and found to be a normal settlement site. Our doubts are further increased when it is recalled that numerous other archaeologists have visited the area in recent years and none of them has ever encountered an ashmound. Thus this evidence, enticing as it is, cannot be relied upon until a fresh investigation of the sites and surviving traditions is undertaken. If, as is quite possible, there turn out to be some genuine ash-mounds in the area, and if they can be shown to have any sort of cultural and temporal relations with our own, the implications will be of considerable interest, particularly in view of our hypothesis of the origins of the Deccan Neolithic culture.[2] But in the meantime we must regard the use made of Jackson's notice by Sir J. J. Modi as totally illegitimate.[3] Another fact which may support the possibility of ashmounds in this area is the survival of the custom of amassing great heaps of dried cow-dung for fuel outside the villages. This has already been noticed by Zeuner in seeking for a possible explanation of the mounds.[4]

A further source of interest would be the study of archaeological discoveries of cattle enclosures elsewhere. These pens, if it were not for an ash accumulation process, would present very little outward trace and are justifiably extremely rare. But in western Europe, where techniques of aerial photography are far advanced, the chances of identifying such enclosures in association with

[1] Jackson, *Persia Past and Present* (1906), particularly pp. 90–8.
[2] See Allchin, *Piklihāl Excavations* (1960), pp. 139–42.
[3] Modi, 'The Gaur tappas of Azerbaijan', *JASBom*, XIV, no. 3 (1927–30), pp. 400 ff.
[4] Zeuner, *op. cit.* p. 39, quoting F. Balsan, *The Sheep and the Chevrolet, a Journey through Kurdistan* (London, 1947).

prehistoric settlements are quite good. Two cattle-pens are reported from Holland which are of particular interest for us as they belong to a pastoral phase which must have been almost contemporary with the Indian Neolithic, although separated by many thousand miles. One pen was discovered and partially excavated by Holwerda as long ago as 1912 at Uddeler Meer in the province of Gelderland, on the Veluwe. This site belonged to the Funnel Beaker culture which is now firmly dated by C-14 to 2700–1800 B.C.[1] More recently another cattle enclosure was discovered at Anlo in the province of Drenthe by Professor H. T. Waterbolk but so far only a preliminary note has been published.[2] The site was roughly rectangular and had a long and complex history. The presence of a number of pits of the Funnel Beaker culture indicates that there was already some settlement on the spot, but the main development took place during the succeeding periods when a series of post-hole trenches were excavated marking the palisade of a cattle-pen. The floor surfaces of this enclosure were covered with hoof-impressions. They appear to date from the time of the Bell Beaker culture (i.e. to *c.* 2000–1500 B.C.) or perhaps slightly earlier from the time of the Stand-foot Beaker culture (2200–1700 B.C.). The full report of this site is awaited. It does not appear that in any of the European examples so far reported did any ash accumulation or burning take place, and so these cattle-pens cannot strictly be compared to the Deccan ashmounds.

[1] J. H. Holwerda, 'Opgravingen het Uddelermeer', *Oudheid k. Mededelingen*, n.s. VI (Leiden, 1912), pp. 8–14.

[2] H. T. Waterbolk, 'Overzicht van het Praehistorisch Onderzoek in Drenthe in 1958', *Nieuwe Drentse Volksalmanak* (1959), pp. 187–206.

CHAPTER 5

OBJECTS FROM THE MOUNDS

From what has been said in the previous chapter it will be realized that the reliability of the evidence provided by the various reports is of very different qualities. First, the objects reported as coming from excavations or even sealed deposits are obviously more meaningful than those discovered *near* the mounds or on their surfaces. Next, the descriptions do not always make the nature of the objects clear. In practice we may say that with Foote's reports the actual provenance of objects can be accepted as reliable, and his description of the stone implements he found is probably equally sure; but his descriptions of pottery are often not clear enough to permit accurate identification unless accompanied by a photograph. I have not been able to examine all the relevant pieces in the Foote collection. A sad aspect of the story is the way in which the entire materials from Newbold's and Knox's excavations, and from Longhurst's at Kudatini, have been lost. No complete report of any of the objects discovered has come down, nor have I been able to discover the whereabouts of any of them. The only other record of materials actually taken from an exposed section was Munn's, and, as I have already reported, I had the good luck to find a case containing apparently the entire collection of pottery and selected stone and ash samples, along with many bones. These I have been personally able to study. Finally, there are the objects which my wife and I collected from several mounds. These have, we believe, a significance as great as the accurately recorded collections of Foote and Munn. In the following sections we shall bring together what evidence there is, expressing it as far as possible in established terms. When this is not possible we shall use the terms of the original publication.

1. POTTERY

Among the thirty-two ashmounds listed above, pottery has been recorded at no less than sixteen. The descriptions however are often far from clear and do not always state whether the sherds were from sealed deposits or from the surface. It may be inferred that eight of the sites produced undoubtedly Neolithic A ware, while only four record what was probably B ware, and that never from a sealed deposit. As so much of the pottery cannot be certainly identified from the published accounts we shall limit ourselves to the identifiable pieces.

A ware

A1 and A2 grey and buff-red wares are most often in evidence. Those from Kudatini and Gadiganūr came from unequivocal, sealed deposits and have been fully described above. The Gaudūr sherds cannot be quite so certainly identified as two or three are of later fabric, but the main body are of A ware, particularly A2 grey. A feature recorded at Kudatini and Gaudūr was the presence of A2 painted ware, with simple unburnt ochre painted bands. This is reminiscent of Utnūr. Of other sites from which pottery was recorded by Foote, although its sealed context is uncertain, Sanavāspur and Lingadahalli are particularly interesting because of their isolated positions and the absence of any settlements in their proximity. The former produced, along with numbers of sherds of A1 and A2 red and grey ware, a good specimen of A1 incised ware,[1] and both produced typical spouts of A1 or A2 grey ware.[2] Another heavy sherd of silver-grey A2 ware from Lingadahalli had a series of deeply incised lines around the rim.[3] From Kudatini came a single sherd of A1 rusticated ware. A3 red ware, of a variety more immediately reminiscent of Sanganakal and Brahmagiri than of Piklihāl, appeared at both Gaudūr and Kudatini: in both cases sherds had traces of purple paint over the red dressing. Finally, at Gaudūr there was also a sherd of A3 buff-brown ware which closely resembled the Piklihāl variety.

The forms, including those illustrated in Fig. 15, are typical of the Neolithic A ware of Piklihāl. They do not all share the heaviness and coarseness which is a peculiarity of the Utnūr sherds. The only illustratable forms are those given in Fig. 15.

NOS. 1–6, GAUDŪR

1 Rim of heavy bowl of A2 buff-brown ware. Compare A ware bowls from many sites, particularly Piklihāl, types 1, 2 and 10,[4] and Utnūr (Fig. 7, no. 30).

2 Rim of similar bowl of coarse clay with fused ash adhering to surface.

3 Narrow neck of A2 grey ware with traces of unburnt ochre band on edge. Compare Piklihāl types 25*b*, 25*e* and 25*f*: the latter in A2 grey painted ware also.

4 Rim of vessel of much-damaged A3 red ware with fused ash adhering to surface. Compare Piklihāl type 31, Sanganakal type 18*c*.[5]

5 Base of much-weathered A2 grey ware with small hole, *c.* 1 in. in diameter punched in the centre, and applied ring foot. Micaceous clay with silver-grey surface. Compare Piklihāl type 66 in A3 ware.

6 Part of a similar base in distinctive A3 red ware with suggestions of purple paint on outer surface. The underside of the ring foot is neatly burnished and dressed. Compare Piklihāl types 67 and 69.

[1] Foote, *IPPA* (1916), pl. 36, no. 1345.4.
[2] *Ibid.* pl. 34, no. 1345.2.
[3] *Ibid.* pl. 32, no. 1515.90.
[4] All references to 'Piklihāl' are to Allchin, *Piklihāl Excavations* (1960).
[5] References to 'Sanganakal' refer to Subbarao, *Stone Age Cultures of Bellary* (1948).

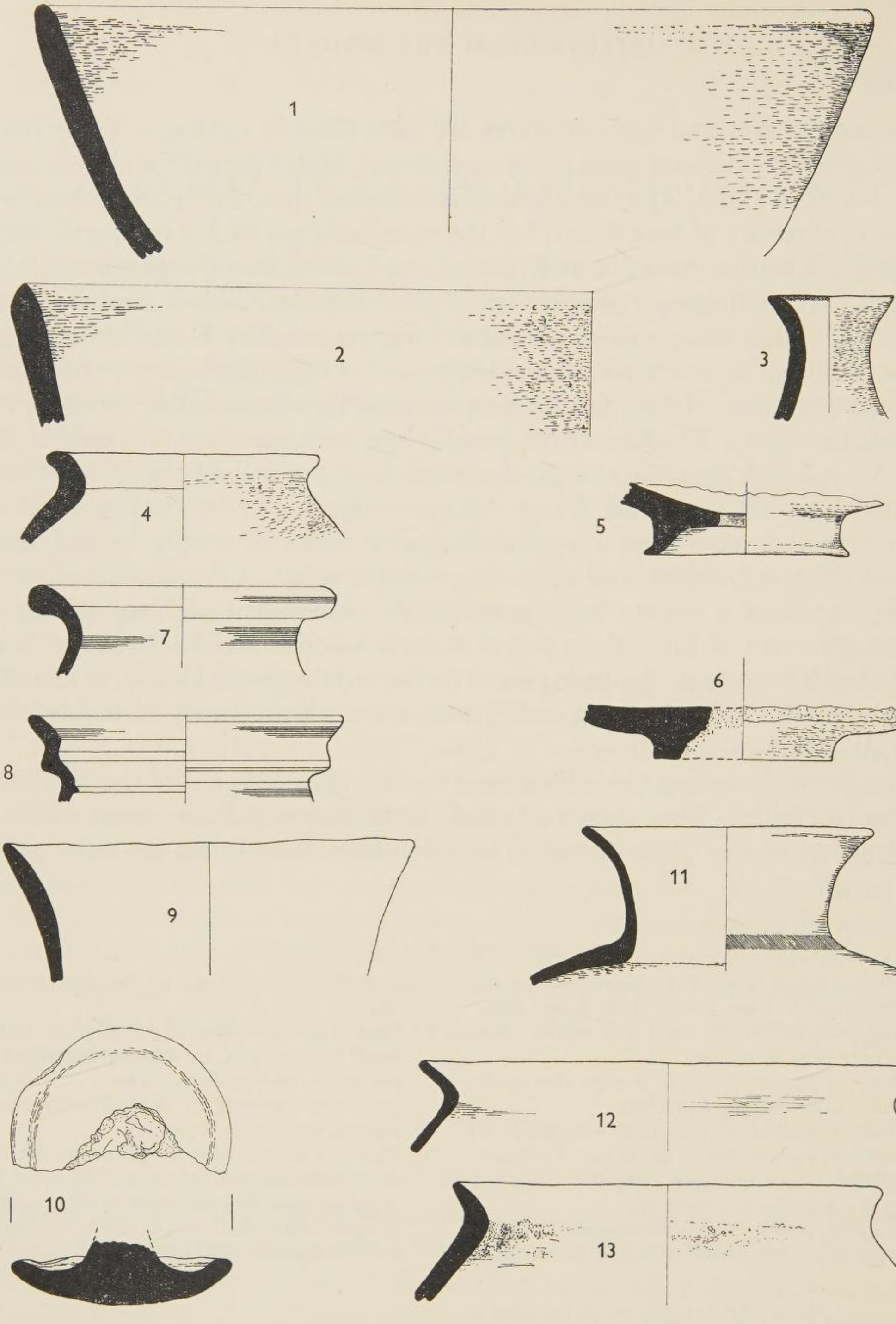


Fig. 15. Pottery from other ashmounds. Gaudūr: nos. 1–6, Neolithic A ware; no. 7, Late Neolithic AB ware; no. 8, Medieval–Modern D ware. Gadiganūr: nos. 9 and 10, Neolithic A ware. Kudatini: nos. 11–13, Neolithic A ware. (Scale, 1:3). (See also pp. 50–66.)

NOS. 9 AND 10, GADIGANŪR

9 Rim of A2 grey ware from sealed deposit in mound. Compare Piklihāl type 28.

10 Disk lid of A2 orange-pink ware. Compare Piklihāl types 40*c* and 40*d*; Sanganakal type VIII.

NOS. 11–13, KUDATINI

11 Rim of fine A2 grey ware with typical burnish. Trace of pale red ochre band painted around the shoulder of the vessel after firing. Compare Piklihāl type 29*f* in similar ware; Brahmagiri type T42.[1]

12 Rim of silver-grey A2 ware with fine burnish outside and in. Compare Piklihāl type 20.

13 Rim of nondescript A1 surface-roughened (rusticated) ware, blackish-brown. Compare Piklihāl form 20*s–u* in similar ware.

B ware

There is one sherd from Gaudūr which is possibly a very early B ware but is more probably of the Upper and Late Neolithic class described at Piklihāl as AB ware (Fig. 15, no. 7). Discounting this, there are five sites from which B wares are reported. At the Kupgal mounds it was expressly noticed that the black-and-red B1 and B3 ware and the large quantity of red B3 ware were scattered all around the mound and over its surface. None was found in a sealed deposit. Again, at Wandalli a few sherds of B3 red were recovered around the mound, but not in a sealed deposit. The sherds which Foote records at Halakundi and Kākbālla are likewise not clearly described, nor is their exact provenance made clear. Thus we take it that the evidence of these sites coincides with that of Utnūr, suggesting that the ash-accumulation process was already complete before the beginning of the Iron Age, but that in some cases at least there was continuous settlement through into the early historic period on the same sites which had been earlier occupied.

D ware

The two sherds of modern D ware in Munn's Gaudūr collection can with considerable assurance be discounted. That they were surface finds dropped by some agriculturalist during the past few decades seems virtually certain (Fig. 15, no. 8).

2. NEOLITHIC BLADE INDUSTRY

Objects belonging to the Neolithic blade industry, made from chert and chalcedony, etc., and taking the form of tiny blades, lunates and cores, are very rare in the reports from ashmounds. Perhaps it is because such tiny objects escaped

[1] Cf. Wheeler, *Ancient India*, no. 4 fig. 20, p. 227.

attention, or perhaps rather because, as at Utnūr, these tools were actually in short supply. Most of the reports have little significance as they indicate neither exact types nor whether the finds come from the ashmound or from its surface. Thus at Mallūr, flakes of agate were recorded in the vicinity of the mound, and at Kudatini a single tiny flake-blade of quartz was noticed among the debris apparently derived from the two upper occupation layers. At Yergunti flakes are mentioned 'on the mound'. A curious circumstance was noticed at Sivapur, and also suggested at Hire Benakal. In both cases the mounds contained, among the ash which constitutes their only residue, many fragments of split or fractured quartz pebbles. These did not in any case actually constitute artifacts, and their meaning is not clear. The only mound from which anything like an assemblage of artifacts is recorded was Lingadahalli, where Foote states that within the enclosure (i.e. the ash walls) he recovered 66 flakes and 21 cores of chert, agate and chalcedony. These, one must assume, were some undisturbed deposit, probably of an occupation subsequent to the final ash accumulation at the site. With the tools he also discovered many specimens of the ground-stone industry. Foote's *Catalogue Raisonné* lists the finds in the group, and we may describe them thus:[1]

Blades and flakes	59
Worked pieces, including backed blades and lunates	5
Points (perhaps fortuitous)	2
Cores, mainly small	21
TOTAL	87

In this table the relatively large number of cores is noteworthy. It is much higher than the flake-blade:core ratio from either excavated or surface collections from Māskī, Piklihāl or Utnūr. The suggestion is that it is the product of a small isolated group utilizing imported cores to fill their own wants. It is, however, beyond doubt a Neolithic blade industry. The small size of cores and finished products is noteworthy.

3. GROUND AND PECKED STONE INDUSTRY

Over half of the ashmounds have produced remains assignable to the ground and pecked stone industry, as it has been defined elsewhere.[2] Indeed objects of this class constitute the most bulky and numerous finds in many cases. It is noteworthy, however, that while tools of the rubbing and grinding group are

[1] Foote, *IPPACR* (1914), pp. 94–7.

[2] Cf. Allchin, 'The Neolithic stone industry of the North Karnataka region', *BSOAS*, XIX, no. 2 (1957), pp. 321–35.

reported from fourteen mounds, those of the edge-tool group—including ground stone axes—are reported from only five; similarly, hammer-stones are reported from only three, and no points are reported at all. Lingadahalli, which we have already noticed for its exceptional blade industry, is likewise unique in respect of its ground stone. The tools otherwise conform as far as can be seen with the industry as it is represented at Bellary, Sanganakal, Piklihāl and Utnūr, although throughout there is repeated evidence that they were used and re-used until quite worn down or broken. Numerous specimens came from well-bedded deposits and must therefore belong to the ash-accumulation periods, others are associated equally well in terms of their proximity to exposed sections, etc.

Edge-tools

Axes. Foote records several axes in the ash talus at Kupgal cinder camp, another much-weathered specimen came from the surface of the mound at Kanchagara Bellagallu. Woolley also noted several axes on and around the Kupgal mound. From Kudatini Foote records three axes of basalt from the surface of the mound: these too he describes as weathered. The only other site—excepting Lingadahalli—from which an axe is reported is Wandalli where Munn found what appears to be a blocked-out axe of basalt. A peculiar feature of the Lingadahalli assemblage of 36 axes is that all except five are of diorite. This again emphasizes the special character of this site, for in nearly every other assemblage of axes which I have seen the material is far more varied and the number of axes of basalt is larger than the total of axes of all other materials.

Adze. A single adze of diorite is reported from Lingadahalli, described by Foote as very thick and heavy.

Scraper. A single scraper of diorite comes from the same source.

By-product flakes. The only site from which by-product flakes of basalt are recorded is Kudatini, from which both Foote and I recovered odd specimens.

Rubbers and grinders

Spheroid rubbers (Foote: corn-crushers). This type is almost the commonest find in the ashmounds. The first recorded specimen was recovered from Kupgal by Newbold: it was of greenstone. Foote noted another specimen 'in the ash' at Kurikuppa. Altogether sixteen examples are clearly referred to from six sites; while Foote refers also to 'many' from others, and Munn and Mahadevan frequently refer in general terms to 'broken rubbing-stones'. Lingadahalli produced six examples, of which four were of diorite, one of granite and one of pistacite. Of the Sanavāspur specimens only one was of diorite, three were of

pistacite, one of quartz and one of quartzite. The two specimens which Foote obtained from Kudatini were of granite and of basalt; while the third specimen from that site discovered by us in 1957 was also of basalt. The functions of these spheroid rubbers are by no means definitely established, but it seems clear that they must lie primarily in the range of domestic rubbing: they appear to be distinct from tools whose primary function was hammering.

Oval rubbers (Foote: mealing-stones). This group was taken to include a whole range of large oval-shaped stones, often with an ovoid section, tending to be flattened on the underside. Perhaps none of the many occurrences recorded in these ashmounds is perfect: generally the tool has been heavily worn and finally broken in pieces, but Foote refers to finds of specimens or of fragments at four sites, to which I can add a further three sites, and Munn and Mahadevan probably another five. They are thus almost as numerous as the spheroid rubbers. The material is more often of granite or diorite, than of the finer-grained stones: Foote noted four at Lingadahalli—two of diorite, one of syenite and one of Dharwar grit; from Halakundi came two of granite; and from Kudatini one of diorite.

Querns (Foote: mealing-troughs). Nearly all of the recorded finds are in fragmentary form. The most common stone is granite. What appears to be a large and almost complete specimen is illustrated by Munn among stones from Gaudūr and Wandalli: it probably comes from the latter site. Two other small specimens of granite were found by Foote at Kanchagara Bellagallu.

Flat grinding-stones, palettes. A single specimen of a typical flat rectanguloid palette of granular quartz was recorded by Munn among the objects from Gaudūr.

Hammers

The hammer class, which at Bellary was comparatively common, is represented at only three sites. From Foote's descriptions of the specimens something can be gauged of the types represented. It is not possible to determine, however, whether any of the stones recovered by Munn from Wandalli is a hammer rather than a rubber, although the indications are that all are rubbers.

Spheroid and discoid hand-hammers. Two specimens both made from naturally cleaved pieces of magnetite came from Gadiganūr.

Cylindrical hand-hammers. Foote records two hand-hammers of polygonal section from Lingadahalli: one of diorite, oblong with six-joint planes, the other of leptynite. A single other small hammer-stone was reported from Halakundi, of haematite jasper.

Miscellaneous

A perforated disk of mica schist was found by Foote at Halakundi.

All told, these finds offer a reasonably typical range of Neolithic tools. The main divergence from the Piklihāl or Bellary assemblages is in respect of the scarcity of axes and other edge-tools. This is explained, in part, by their presence at what must have been a small factory site at Lingadahalli. Another notable feature is the absence of hammer-stones, which we have seen elsewhere to be largely specialized tools connected with axe manufacture, etc. The predominant tools found at all the ashmounds are rubbing- and grinding-stones. That these had a domestic function, rather than some specialized industrial use, such as gold-crushing, may be inferred from the repeated occurrence throughout the sites, and not only at those mounds which are near gold-bearing veins. This must not altogether preclude the possibility that at Wandalli some such specialized usage may be indicated by the great number and size of the many rubbing-stones discovered (see above, p. 62).

4. WORKED BONE

An object of considerable interest was reported by Foote from the Halakundi camp.[1] This was a chisel or polisher of worked bone. It was discovered on the mound by Mr Hubert Knox, whom we have already noticed in connection with the excavations at Kupgal. It appears to be a length of bone carefully split and about 3 in. long. The lower end has been ground so as to form a small chisel blade. The bone is not identified, but I take it to be part of the long bone of a bovine. This artifact is interesting because bone tools are extremely rare in Deccan sites, and almost the only other example so far recorded is the worked bone point from Piklihāl, which albeit of a different form may well have been the product of the same tradition as this piece.[2] The worked bone from Utnūr has already been mentioned.

5. ANIMAL REMAINS

By comparison with the stone finds, reports of animal remains are rare. This may well be because they are less durable and are subject to the depredations of various rodents, notably porcupines. Bones which had been but recently exposed at Kudatini were found to bear fresh marks of gnawing, probably

[1] Foote, *IPPA* (1916), pl. 46, no. 347; also Foote, *IPPACR* (1914), p. 37.
[2] Allchin, *Piklihāl Excavations* (1960), p. 112.

by these creatures. Nevertheless, the surviving animal remains remarkably support the findings at Utnūr. So far in only one case has a bone from an ash-mound been identified as human, and unfortunately the specimen is now no longer available for study. All the remaining specimens belong to the animal kingdom, and we summarize the evidence below.

Bovinae

Bones of bovines have been reported from five sites. They make up all, save one, of the larger mammalian bones from the ashmounds. From his excavations at Kupgal, Knox reported 'bones probably of cattle', but the identifications were never published. Foote, too, noticed bones of bovines *in situ* in the ash at Kurikuppa, and from Sanavāspur he obtained the molar of a bovine. Kudatini mound yielded to Foote part of the horn-core of a bovine and other fragments of bovine bones. Finally, in 1957, I obtained from the exposed section of that mound a number of other bovine remains (already listed on p. 56), including several molar teeth, the distal end of the tibia of a young bovine, the epiphasis of the metapodial of a young bovine, the astragalus of a large bovine, and fragments of rib. Another large group of bones was recovered by Munn from a well-sealed deposit in Gaudūr mound. These too were entirely bovine and were listed above (p. 64). The proper study of these bones and the identification of the one or more breeds of cattle present in these sites has not yet been undertaken, but already there seems to be evidence for two main breeds, the one very much larger than the other. This however is a question which we shall discuss below.

Caprinae

From Kudatini I collected a fragment of the mandible of what was most probably a sheep. This is the only bone of this species so far identified from an ashmound, apart from those of Utnūr.

Rodents

Several earlier reports mention bones of rodents. There is ample evidence that porcupines, etc., have used the mound as convenient nesting places whilst preying upon the bones they encountered there, and these may account for the rodent remains, none of which has so far been accurately identified.

6. ASH AND CINDER

The correct identification of the ash is one of the clues to the mounds, and its history is as strange as that of the central problem itself. Already in Mackenzie's time samples had been collected and were regarded as a 'fossil petrification',

and when Cole, Benza and Prinsep examined specimens procured by Newbold further theories were advanced: that it was either a limestone slag or a volcanic scoria. Yet Newbold demonstrated beyond all doubt that the ash was the result of a process in which man had played his part and thus ruled out the possibility of its being natural accumulation; he also showed that it resulted from repeated, rather than from single, conflagrations. With a logic which must be admired he rejected for the ash all the obvious explanations of kinds of industrial slag, but failed to supply any certain answer to its nature. It was Bruce Foote who carried forward, with uncanny inspiration, the logical arguments of Newbold. He showed that the ash resulted from periodical burnings, that it was beyond doubt of artificial accumulation, and that it contained the vitrified skeleta of grasses and perhaps even millets. He, too, published the first chemical quantitative analysis of an ash sample from the Wandalli mound. This had been collected by the mining engineer Bosworth Smith and analysed for him by Professor W. E. Smith of the Presidency College, Madras.[1]

Analysis by W. E. Smith

	Percentage
SiO_2	53·10
H_2O (at 100°)	0·20
CaO	10·89
Fe_2O_3	17·27
Al_2O_3	4·51
P_2O_5	1·17
K_2O	1·11
Na_2O	2·54
MgO	3·89
CO_2	5·30
	99·98

In the light of this analysis Foote felt satisfied that the ash was that of burnt cow-dung. He therefore drew attention to a description of thorn-fenced cattle-pens and villages noticed by Stanley in his book *In Darkest Africa* and wrote of the Indian sites as 'great cow-dung mounds'. This brilliant hypothesis, however, was taken no farther by later archaeologists who one and all sought for a more obvious explanation. Foote, with his scientific training and wonderful ability to notice essential detail remarked that 'some of the fragments of the slaggy cinders showed impressions of coarse straw *like that of the great millet* (*Holcus sorghum*)'.[2] This hint too was left unnoticed until Zeuner returned to the study of the ash in 1954.

The Wandalli mound subsequently attracted the attention of the gold geologist Maclaren, who collected samples and had them assayed. The first

[1] Foote, *IPPA* (1916), p. 95.

[2] *Ibid.* p. 80.

published account of this work was by Munn.[1] Although this analysis is less complete than Foote's it substantially agrees with it. Munn published the same results in his appendix C to the *Annual Report of the Hyderabad Archaeological Department* (1927–8), and yet again in his paper in *Man in India* (1935). In this later report he incorrectly ascribed the analysis to Bruce Foote himself. It is however evident from his earlier paper that it was made by Maclaren, perhaps unaware of Bosworth Smith's having already analysed samples.

Analysis by Maclaren

	Percentage
SiO_2	66·19
Moisture	0·26
CaO	15·88
$Fe_2O_3Al_2O_3$	8·19
P_2O_5	1·57
Undetermined	4·52
	100·00

In the subsequent discussion one group tried to show that the ash was an industrial slag. Among these was Munn, who was unable to believe that 'anyone would collect 175,000 cubic feet of cow-dung cake', the volume as he reckoned of the Wandalli mound. Others, including Yazdani, tried to connect the mounds with ancient iron or gold smelting, in the face of all the evidence of the absence of iron- or gold-bearing slag on the mounds. In this context an unpublished letter from the late J. D. Aitken, Superintendent of Hyderabad Gold Mines, to Mr Khurshid Mirza, the Director of Mines, Hyderabad, and dated 14 June 1939, is of some interest. This quotes figures for two analyses of an ash specimen from Wandalli and a specimen of completely vitrified ash, or glass, from Gaudūr.

I have had the ash from the Wandalli ashmound partially analysed.... The report on the assay...was that 'no very definite opinion could be formed about it. Assays of Silica, Lime and Phosphorus gave the following results:

SiO_2	61·92%
CaO	9·84%
P_2O_5	1·16%

It is possible that the material is a highly weathered slag from the smelting of iron ore. The assay showed that there was no gold present.'

With reference to the glass from the Gaudūr ashmound, below is a copy of a personal letter sent to me. 'I have had an analysis, part qualitative, part quantitative, of the glass

[1] Munn, 'Ancient mines and megaliths in Hyderabad', *Memoirs of the Manchester Literary and Philosophical Society*, LXIV, pt. II (1921).

from the Gaudūr ashmound. A complete quantitative analysis would be a very lengthy process owing to the presence of Phosphorus. The results were:

SiO_2	66·3 %
CaO	10·5 %

It also contained phosphorus and iron and a small amount of manganese.'

The most interesting thing about it is that it seems to be roughly of the same composition as the ash.

This to my mind puts a new complexion on the weathered slag theory. *I am unable to think of any smelting operation which would result in a slag containing as much as 66 % silica* [my italics]. Such a slag would be distinctly difficult to melt, and therefore the idea of the ash resulting from smelting operations is only tenable on the assumption that considerable change in composition by removal of soluble portions of the original slag had taken place and resulted in an increase in the percentage of silica.

The fact that the glass and the ash are similar in composition may of course be a co-incidence, but I must say that I prefer the idea that they were formed simultaneously from the same original materials. This could easily happen in a large pile of stuff being burned, the glass being formed only in the hottest parts of the fire. . . .

If you accept this idea, it means that there has been very little change in composition of the ash in course of time and the theory of its being a weathered slag from smelting operations immediately collapses.

The up-shot of this letter is that the two specimens of ash and glass from Gaudūr and Wandalli have both silica and calcium contents strikingly close to those of the two earlier samples quoted. The comment upon the nature and origin of the samples is also most illuminating.

In 1927 Munn excavated several graves exposed in the bed of Lingsugūr tank. We have described the graves above (see Lingsugūr, p. 60). Around the stone cists he found a neatly spread circle of small lumps of 'ash', which he and other observers have identified as similar to and probably originating from an ash-mound. A sample of this ash was sent by Yazdani, the Director of Archaeology in Hyderabad, to the British Museum for study. The published report is as follows: 'Qualitative data indicate the presence of much silica, silicates and oxides of iron, aluminium, calcium, magnesium, sodium and potassium, with small quantities of manganese oxide, phosphate, sulphate, carbonate, and organic matter present in very small quantities.' From this it appears that the constituents of this ash are similar to the other samples reported, and may be taken to have originated from the same materials by the same process as the ash from the mounds.

In 1949 Professor F. E. Zeuner visited several mounds in Bellary, including Kudatini, Kupgal, and Gadiganūr. Subsequently he undertook the study of samples collected there, together with one which I had collected (in 1952) at

Piklihāl. The result has now been published, and as the petrological description and chemical analysis there given leaves little to be desired and will probably remain the best available for years to come I shall quote the relevant parts *in extenso*.[1]

> The lumps of slag are similar in all essential respects. They are whitish or grey, with a green tinge, in places black or brown. Where fusion has been intense, large vesicles make up the body of the slag, and the separating walls are thin. With it goes a glassy texture, often fluidal, and green tinge. When a lump is broken open, the internal colour is not infrequently black, due to the presence of varying amounts of unburnt organic matter. This suggests that insufficient oxygen was available in the centre of the slag, whilst on the outside an excess of air was available. A lump of combustible substance therefore which contained organic matter must have been heated above fusion temperature.
>
> Many lumps are incompletely fused, portions being ashy and showing cracks much like those of burning charcoal, and there is much loose ash incorporated in an irregular fashion. The cracking suggests loss of a volatile substance (as do the vesicles), probably derived from the organic matter originally contained. The incomplete and patchy state of fusion indicates that the fusion temperature was not reached everywhere in the mound, and the presence of ash over scoriae in many places that most of the mound never reached it.
>
> Inside certain specimens of slag, the transition to ordinary ash is observed. Here particles are seen under the microscope which are evidently derived from the original fuel. They are all small, of the order of a millimetre. There is no evidence of wood, even of small pieces derived from twigs. All recognizably shaped fragments, however, do suggest remnants of vegetation, mainly of grass stalks and blades. In the specimens that I was able to examine there was nothing to suggest a substance as coarse as straw. Under the microscope half-fused ash from such patches is found to contain many small fragments of silica skeletons of grass cells. It is therefore suggested that the fuel consisted of finely comminuted grass, apart perhaps from other materials that cannot be recognized....
>
> Chemical analysis was therefore made of a specimen of green slag from Kudatini, and of fresh cow-dung ash....
>
> The specimens of cinder effervesce for a second or so on surfaces of powdery appearance, though not on glassy ones. Calcium carbonate is therefore present as dust, and is an addition from outside. This is not surprising in the relatively dry Bellary and Raichur regions where most immature soils contain calcium carbonate, and sometimes plenty of it. For this reason, the cow-dung for our analyses was collected on the Chalk downs of Berkshire, so as to have a sample from a calcareous subsoil.
>
> The three analyses of cinder (i.e. those of W. E. Smith, Maclaren and of Zeuner himself) agree with modern cow-dung ash in consisting of almost 60 per cent of silica. Iron, aluminium and manganese oxides vary, *c.* 9 per cent in Kudatini and Wandalli (Maclaren), comparing with *c.* 22 per cent in Wandalli (Smith) and 18 per cent in modern cow-dung. This variation may be ascribed to varying amounts of iron. The alkali and earth-alkali contents, taken as a whole, vary but little, from 15·5 to 21 per cent, but the distribution of elements is irregular. Kudatini has very little calcium oxide, Wandalli has more, and the highest is found in modern English cow-dung from the Chalk downs. Since Kudatini rests

[1] F. E. Zeuner, *BIA*, II (1959), pp. 37–44, particularly pp. 40–3.

on gneiss I am inclined to attribute the differences to the varying amounts of CaO available in the substratum. Correspondingly potassium oxide is highest in Kudatini where the gneiss contains orthoclase. The only other component worth considering is phosphorus pentoxide, present in appreciable quantities. There is more in the Kudatini sample than in those from Wandalli, but the mean slag values: 2·4 per cent, is virtually identical with modern cow-dung. . . .

Chemical analysis thus shows clearly that the slag could well be derived from cow-dung.

Evidently the melting of ash requires a fairly high temperature and this should be the same for the slag and for cow-dung if this latter material produced the former. Experiments were therefore carried out at the Imperial Institute, comparing samples of our specimens with 'Seger cones' of known melting-point. The first sample was of finely-ground slag from Kudatini, the second modern, untreated cow-dung. All three melted at the same temperature, approximately 1200–1230° C. . . . .

To sum up, microscopic investigation, chemical analysis and melting-point determination are consistent with the cow-dung nature of the material of the mounds.

A further matter of some interest would be to study the loss of weight and volume which the burning of cow-dung in mass would entail. I am indebted to Dr I. W. Cornwall of the Institute of Archaeology, London, for the following notes. Dr Cornwall collaborated with Professor Zeuner in the laboratory work on the samples we have quoted above. He writes: 'As received the fresh dung contained 61 per cent water, lost on drying at 110° C. On ignition, organic matter and combined water were driven off, the loss in weight amounting to 77·3 per cent of the dry dung. The remaining ash was 22·7 per cent. This was light and bulky, easily blown about. Loss of volume on fusion to a glassy slag was very great.' From this it would appear that there is comparatively little loss of volume in the process of burning to ash. When however a slag is produced, and in every mound the mass displays every stage from powdery ash to almost solidly glassy slag, the loss of volume becomes progressively greater. On account of the variability of the burning and the patchy nature of the ash deposits in the mounds, however, this indication cannot be used to produce any estimate of the total reduction of volume involved. We are inclined to consider that this would be normally comparatively little.

We set out in tabular form the results of the various analyses of ash samples below. In the light of the almost complete agreement of the figures from so many specimens, it appeared unnecessary to repeat the lengthy and costly process with fresh specimens from Utnūr. Although the results are of varying degrees of completeness, they agree very well. The calcium figures for the three Wandalli tests and Gaudūr only vary between 9·84 per cent and 15·88 per cent. The phosphate figures for the three Wandalli samples are surprisingly close. In these four tests the silica content is also very close to that recorded at Kudatini by Zeuner.

COMPARISON OF CHEMICAL ANALYSES OF ASH WITH COW-DUNG ASH

	Wandalli (W. E. Smith)	Wandalli (Maclaren)	Wandalli (Aitken)	Gaudūr (Aitken)	Lingsugūr (ash from grave)	Kudatini (Zeuner)	English cow-dung (Zeuner)
SiO_2	53·10	66·19	61·92	66·3	+	67·40	56·31
H_2O (at 100° C.)	0·20	0·26	—	—	—	—	—
CaO	10·89	15·88	9·84	10·5	+	4·38	17·56
Fe_2O_3	17·27	8·19	—	+	+	9·47	17·57
Al_2O_3	4·51		—	—	+		
Mn_2O_3	—		—	—	+		
P_2O_5	1·17	1·57	1·16	+	+	3·40	2·46
K_2O	1·11	less than 4·52	—	—	+	6·24	1·54
Na_2O	2·54		—	—	+	1·9	1·68
MgO	3·89		—	+	+	2·98	0·35
CO_2	5·30	—	—	—	+	0·47	Absent
Ignition loss	—	—	—	—	—	2·82	—
Elem. C	—	—	—	—	—	—	1·01
SO_3	—	—	—	—	+	Absent	0·61
Cl	—	—	—	—	—	Trace	0·07
Undetermined	—	4·52	(27·08)	(23·2)	—	—	—
Total	99·98	100·00	—	—	—	99·07	99·16

+ Indicates presence in undetermined quantity.

SUMMARY OF PRINCIPAL FINDS FROM MOUNDS

Site	Pottery									Ground stone							
	A1	A1 incised	A1 rusticated	A2	A2 ptd	A3	A3 ptd	AB	B	Stone blade	Axe group	Flakes, etc.	Spheroid rubbers	Oval rubbers	Querns	Palettes	Hammers
Utnūr excavations	▲	▲	—	▲	▲	▲	▲	—	—	▲	△	▲	▲	▲	▲	▲	▲
Kudatini	—	—	▲	▲	▲	▲	▲	(?)	—	▲	▲	▲	▲	▲	—	—	—
Gaudūr	▲	—	—	▲	▲	▲	▲	(?)	(?)	—	—	—	▲	▲	▲	▲	(?)
Gadiganūr	▲	—	—	▲	▲	—	—	—	—	—	△	—	—	—	—	—	▲
Sanavāspur	▲	▲	—	—	—	—	—	—	—	—	—	—	▲	—	—	—	—
Lingadahalli	▲	▲	—	▲	—	—	—	—	—	▲	▲	▲	▲	▲	—	—	▲
Kanchagara Bellagallu	—	—	—	—	—	—	—	—	—	—	▲	—	▲	▲	▲	—	—
Wandalli	—	—	—	▲	—	—	—	—	△	—	▲	—	—	▲	▲	—	▲
Kupgal 1 and 2	—	—	—	▲	—	—	—	—	△	—	▲	—	▲	—	—	—	—
Kurikuppa	—	—	—	—	—	—	—	—	—	—	—	—	▲	▲	—	—	—
Halakundi	(?)	—	—	—	—	—	—	—	△	—	—	—	▲	▲	—	—	▲

▲ = present in ash-period context. △ = present in association or unproven context. (?) = inferred to be present from incomplete report.

CHAPTER 6

PLACE-NAMES AND TRADITIONAL EVIDENCE

In the previous chapters we have assembled the strictly archaeological evidence afforded by exploration and excavation; we have also analysed the objects produced by these methods. We now wish to consider other categories of evidence to see whether they can help us to arrive at a fuller understanding of our problems. At first sight it may appear scarcely admissible to discuss such things as traditions, place-names, modern ethnographic parallels, etc., in this context; but we enter a plea in justification of doing so in these terms. Ever since Newbold's demonstration that the mounds owed their existence in some way or other to human activity and not to the work of nature, workers have sought to explain their meaning. Bruce Foote advanced a hypothesis concerning the mounds which Zeuner was recently able to substantiate and which we hope we have been able finally to prove. This sought to show that they were (*a*) accumulations of cow-dung, (*b*) the sites of cattle-pens, and (*c*) of Neolithic age. Yet when this is proven the mounds still remain mysterious: 'why, we may ask ourselves, did all this happen?', 'what lay behind it?'; and so on. To attempt to answer these questions in the final chapters, as fully as the available data permit, we must first investigate a curious possibility. If these mounds were indeed what we are suggesting, then surely some trace would be left of this unique practice in other sources?

The historical process which gave rise to the ashmounds was one which involved men living in societies; and the practice was for perhaps many generations a part of their lives. There are many signs of continuity linking the culture of the Deccan Neolithic to the modern culture of the region, and thus it is to be expected that some traces of the process, albeit fossilized or transmogrified, are yet to be found. The different categories of evidence which we now consider appear to us to be valid in the same way as Lyell's 'Law of existing causes' is valid for geology and archaeology. It is, as we interpret it, the basic fact that no human custom or practice exists today, or ever has existed, in isolation; and that once it has existed, unless good cause can be found to show why it has disappeared, traces of that practice may still survive at least in fossil form. In our reading this is the basic law of archaeological interpretation, without which our work becomes finally meaningless in human and cultural terms. Obviously

there must be control and discipline if the method is to be used correctly, but these controls must be of a human, cultural kind. Tylor, in his great work *Primitive Culture*, expresses beautifully the corollary of our view: that the tendency of culture has been similar throughout the existence of human society, and that we may fairly judge from its known historic course what its past is likely to have been, is a theory entitled to precedence as a fundamental principle of ethnographic research.[1] Professor J. G. D. Clark, whose *Prehistoric Europe, the Economic Basis*, is an excellent example of the method in operation in Europe, has also written of the importance of comparisons with 'societies at a common level of subsistence. . . existing under similar ecological conditions'. We should add our own gloss to these remarks, that such interpretational uses of ethnographic and other evidence for archaeology are most likely to be meaningful when there can be shown to be media for both geographical and cultural continuity. For example, the herding customs of the Lapps, or even of West Europeans, are not likely to have the same significance for our problems as those of pastoral and near-pastoral groups still living in comparable environments in the Deccan and adjacent regions of India. Thus the cultural behaviour and human activities which gave rise to the ashmounds should still live on 'incapsulated', as R. G. Collingwood had it, upon the tongues and in the minds and hands of men.

1. PLACE-NAMES

The study of Indian place-names is in its infancy. There are many indications of the interesting results which could emerge from such studies, and the scope is truly enormous, but as yet nothing can compare with the thorough collection of material, both historical and field, which has taken place in Europe during recent decades. The collection of historical materials has, indeed, gone on in many parts of India, but the field-work which is an essential part of further study has hardly begun. Another difficulty in the way of such work is the number of regional languages, for while one region has been the scene of activity, another may have been quite ignored. Thus the pioneer work of Sankalia and Sandesara does not really extend beyond Gujarat.[2] The Kannada region, which is the centre of our inquiry, and to a lesser extent the Telegu region, have been very little studied, although a few brief preliminary papers do exist.[3] In these circumstances it has been difficult for us to carry our own

[1] E. B. Tylor, *Primitive Culture*, 4th ed. (1903), p. 35.

[2] H. D. Sankalia, *The Archaeology of Gujarat* (Bombay, 1941), pp. 33–65.

[3] Cf. R. C. Hirenath, 'Linguistic investigation of some place-names in Karnatak', *JIH*, XXXI (1953), pp. 81 ff.; S. Silva, 'The toponomy of Kanara', *JAHRS*, XX (1949–50), pp. 91–114; Narayan Rao Chilakur, 'Study of place-names in the Anantapur district', *JMGA*, X (1935–6).

work to any depth, for there are many obstacles in the way. The Survey of India sheets and the *Gazetteer of India and Pakistan* (1950) do not include names of units smaller than villages, and in our own experience there are many smaller named features, both natural and artificial, which are of potential value but left unrecorded. It is to be hoped that organized collection of such names, at least in key regions, may be undertaken before too many of them disappear in the rapid changes taking place in modern India. The ashmounds are by their very nature unobtrusive and their names do not appear on the maps. Such information as we have been able to gather on this topic comes mainly from other sources. We have been able to augment our information from another quarter. There are in the region many villages which preserve the element *būdi*, ash. Several of these villages lie near to recorded ashmounds. It may well be that the distribution of *būdi* place-names relates to the ancient distribution of ashmounds. This we shall consider below. A special difficulty we have encountered is that the names collected in the *Gazetteer* and on the survey sheets are not transcribed in any very systematic manner: different workers at different dates followed different systems, and we have often no very sure guide as to which of the names we have found actually contain the 'ash' element. We make no apology for this admission but only repeat the need for this sort of work to be taken up by scholars of the Kannada and Andhra regions.

Information of a rather vague kind derives from Mackenzie, through a letter of Cavelly Venkata Lutchmia to Newbold.[1] This mentions a mound called *Budighunta*, near Courtney, 11 miles west of Bellary (presumably the Kudatini mound); another *Budibetta*, near Chitaldrug; another *Budihal* in the Mysore country; and a *Buditippa* in Sundah (Sandūr) near the Nugger (Nagar) frontier. The Kudatini mound is also referred to as *Budikanama* in later sources. Whether the other names actually refer to ashmounds is not certain; they may represent no more than village names. The Mallūr ashmound in Gulbarga is actually called *Būdimatti*. Village names are often also suggestive. For example, *Ettina Būdihāl* is 8 miles south-south-east of Bellary, a village lying at the foot of the same range of hills as the mounds at Halakundi, about 8 miles to the east; and the village of *Vibhūtihalli* is found south-west of Shāhpur in Gulbarga district, not more than 2 miles from the ashmound of Benkanhalli. In this case the village lands have produced ancient remains. Thus there is a reasonable expectation that these two names were originally linked with nearby ashmounds, perhaps still in existence and awaiting discovery. Another ashmound is recorded 1 mile north of the village of *Budinni* in Raichūr district. Narayana Rao, in his study of the place-names of Anantapur district, also noticed that the

[1] Newbold, 'Note on the occurrence of volcanic scoria in the southern peninsula', *JASB*, v (1836), pp. 670–1.

element *būdi*, ash, occurred in numerous contexts, once at least in association with prehistoric remains (of unspecified nature). He too assumed that it indicated the presence of ashmounds. He lists the following examples: *Būdikoṇḍa* also called *Būdihāl* village, *Būdigavi* in Gooty taluk, *Būdili* in Hindupur taluk, *Būdūḍu* in Anantapur taluk, *Būdanampalle* in Kadiri taluk, *Būdigummea* in Kalyandurgam taluk, *Būcherla* or *Būdacherla* in Penukonda taluk. Whatever may be the archaeological contexts of these village names they are sufficiently distinct to warrant our considering their meanings as place-names. The Survey of India maps supply many more examples which deserve investigation. For example, east of Koppal in Raichūr district, near the village of Bilebhavi, is *Būdagumpa*, situated only about 5 miles north-west of the Sivapur ashmound. A village named *Budguppa* is situated about 3 miles south-east of Koratgi. Between Raichūr and Gadwāl, now in Andhra Pradesh, is the village of *Budathipahād*, and another, *Bududipahād*, lies on the east bank of the Krishnā in the Mahbūbnagar district. Unfortunately the imprecision of their transliterations and the variance in the work of different surveyors at different dates makes many of these names hard to precise, and thus limits their use. With the same provision we may use the *Gazetteer of India and Pakistan* (1950). Here there are about fifty names with the element *būdi*. *Būdihāl* (*-halli*, *-hālu*) is the most common with twelve occurrences, *Budhihal* with four examples is evidently a variant transliteration of the same name, single instances occur of *Vibūtihalli* and *Vibuthalli*. We shall see that the distribution of these *būdi* names largely overlaps that of the ashmounds, thus making it reasonable to infer some connection between them. Finally, several of the mounds have been given verbal descriptions rather than names, but these are also noteworthy. For the Kupgal mounds Subbarao recorded the name of *Kolimi dibba*, and for that of Gudikallu the tantalizing phrase *narri avula gattu*.

The most common and important element in these names is *būdi*, ash. I formerly held the view, expressed in the *Tamil Lexicon* and elsewhere, that Kan. *būdi*, Tel. *būde*, and Tamil *pūti* all derived from Sanskrit *bhūti*, *vibhūti*. This view, however, upon reflection, presented serious semantic difficulties, and I found it necessary to reverse the order of the borrowing. This would entail the presence of a Dravidian word from which *būdi*, etc., could derive. Professor Burrow has supported this view on philological grounds and the case appears to be well established.[1] Kan. *būdi*, ash, Tel. *būde*, may be justifiably regarded as Dravidian in origin; Tamil has *puṟuti*, dust, pulverized or fine powder; *pūṟti*, dust; *pūṟi*, powder, dust, sacred ashes; and correspondingly Tel. has *būḍida*

[1] I wish to express my gratitude to Professor Burrow for permitting me to quote from his then still unpublished *Dravidian Etymological Dictionary* (Oxford, 1961). What follows is based upon his research.

(*ḍ* < *ṛ*), ashes. From *pūṛti* Ka. *būdi* is easily derived with elision of *-ṛ-* and initial voicing which is often associated with such elisions.[1] To conclude, the word *būdi* or *būde* is used as an element signifying ash, it is Dravidian, and seems to have been responsible for the Sanskrit usage of *bhūti*, *vibhūti*, in the extended meaning, 'ash, sacred ash'.

The second element in these names is of several kinds. The commonest is a word signifying village, as in the forms *Būdi-hāla*, ash village, *Vibhūti-halli*, *Būdanām-palle*, etc. The *halli-haṭṭi* words, with all their extensive variants, have been traced in an interesting paper by S. B. Joshi.[2] Again such forms as *Būdili* and *Būdūḍu* have a similar significance. A second group signifies the geographical location of an ash accumulation, as in the forms *Būdi-kanama*, ash pass or defile (Tel.), *Būdi-gavi* or *Būdi-gummea*, ash cave.[3] A third group may rather signify the form of the ash accumulation itself, as in *Būdi-guṇṭa* (*guṇṭa*, Kan. 'meeting, joining'; *guṇṭe*, Tel. *guṇṭa*, depression or hollow); *Būdi-bĕṭṭa* (Kan. *bĕṭṭa*; Tam. *viṭam*, etc., mountain, hill), ash hill; *Būdi-koṇḍa*, ash mountain or hill; *Būdi-tippa*, ashmound or heap; *Būda-gumpa*, ash heap.

Of these elements *tippa*, mound, is of particular interest. My first reaction was to assume that this word was a late, Muslim loan from the well-known Turkish *tepe*. But on further consideration the matter is not as simple as that. Professor Burrow writes that Kan. *tippa*, Tel. *dibba*, etc., are registered in his *Dravidian Etymological Dictionary* as native Dravidian along with related words (Parji *ḍibba*, heap, Kui *ḍepa*, rising ground, etc.). At the same time the word does not seem to be very ancient from the point of view of the literary record. Tam. *tippai* seems to be borrowed from Kan. and Tel. and only occurs in the modern language. The word occurs in N. Indian languages and it is used also as a place-name element signifying mound (cf. *Sanglāwālā ṭibbā* in Dt. Sialkot). In this context it appears in Punjābī and also (?) in Hindī *ṭibbā*, *ṭībā*, a height,

[1] Having established the independent existence of Dravidian *būdi*, ash, we must consider the semantic history of Sanskrit *bhūti*, *vibhūti*, with the extension of meaning 'sacred ash', in a new light. In Sanskrit both words are sufficiently ancient in their general meanings of abundance, greatness, splendour, power. They came to have the meaning of sacred ashes, ashes derived from burnt cow-dung, only at a comparatively late date, as single extensions of meaning among many others. Thus *bhūti*, ash, comes into use in the *Kāvya* literature, and is also known to the lexicographers and to *Kathāsaritsāgara*. Its other early use in this sense is in *Mārkandeya purāṇa*. *Vibhūti*, with the meaning 'sacred ash', has a roughly parallel appearance, being found first in the *Pañcarātra* literature and in such sources as *Sāhityadarpana*. As the Dravidian words have the general meaning 'ash', as well as the more specialized meaning of 'sacred ash', while the Sanskrit forms have only the latter meaning as a quite incomprehensible extension of their root meanings of greatness, power, etc., it seems reasonable to conclude that the Sanskrit acquired the 'ash' meaning by contamination with the Dravidian. That it should have come to be so universally used and understood in this sense is an interesting fact of history. It also leads us to regard the Dravidian *būdi* forms as having special extensions of meaning as 'ash derived from cow-dung, sacred ash'. This is further substantiated by the apparent substitution of *Vibhūti* for the Dravidian form in certain place-names, which as they are associated with the ashmounds, carry at least the connotation of ash derived from cow-dung, and probably also of sacred ash.

[2] S. B. Joshi, 'Etymology of place-names *Paṭṭi-Haṭṭi*', *ABORI*, XXXIII (1952), pp. 41–56.

[3] But see the interesting name Budigavhan in Khandesh (lat. 21° 35′, long. 74° 25′).

rising ground, hill (although Fallon's vocabulary is heavily influenced by Panjābī words—and this may be one—there being other words commonly used for 'mound' in U.P., etc.). I am informed by Dr N. Isaac of Andhra Christian College, Guntūr, that in the Andhra districts the element *dibba* is a very frequent indicator of early historic and Buddhist sites. The question arises whether this word which is sufficiently widespread, and which has apparently always the same range of meanings, from the general 'rising ground, hill', to the particular 'mound, heap, manure heap, etc.', has any connection with the Turkish form *tepe*, *tapa*, so widely used as a place-name element with similar meanings throughout Iran, Asia Minor and Central Asia. Professor Sir Harold Bailey has kindly drawn my attention to its occurrence in Turkish and several of its dialects, as well as in the eighth-century Orkhon inscriptions.[1] Here the original meaning of *täpä*, *töpä*, seems to be connected with 'head, top'. Whatever the philological position, the semantic is highly suggestive that there has been contact or loan at some time from one group to the other. If, as seems probable, the loan is older than the Muslim period, it will be necessary to seek some earlier movement or contact which could provide it.

Of particular interest is the curious village name *Ettina Būdihāl*. The form *ettina* appears to be the gen. plural of Kan. *ettu*, ox. Hence this village name means 'oxen's ash village'. This may be compared with the name (or rather description) of the Gudikallu mound recorded by Professor Subbarao as *narri avula gattu*. These words are somewhat problematic and even their original forms are not certainly established. Tel. *gaṭṭu*, bank, heap, mound, compares with Kan. *gaṭṭu* with the same meaning. Professor Burrow has put the word with the verb Tam. *kaṭṭu*, to bind, construct, cf. 'bund'. The form *āvula* appears to be a regular dialect variant of Tel. plural form *āvu-lu*, cattle, cows. The form *narri* is particularly troublesome, but may be related to the Tel. *narra*, milch cow, horned cattle. It is perhaps related to Tam. *narai*, grey hairs, whiteness, a white bull, which occurs also in Kan. *nare*, and in Tel. *naraye*, *nareti*, meaning a white spotted ox or cow. Thus the meaning of this name seems to be 'the bank or mound of the grey cattle and kine'. Professor Subbarao also obtained a traditional explanation of the mound which we shall consider below, linking it with cattle.

A final name for Kupgal mounds recorded by Subbarao was *kolimi dibba*. The latter element we have already discussed. The former has the meaning in Telegu of 'furnace, pit', hence the name implies 'furnace heap (slag heap, etc.)'. This name is not mentioned by Knox and Fawcett eighty years earlier, when they were told that the mound had another origin.

[1] V. Thomsen, *Inscriptions de l'Orkhon dechiffrées* (Helsingfors, 1896), p. 101, *top*^{a} *sinda* 'at the top', providing the form *topa*.

On the distribution map (Fig. 16) I have plotted only names which appear to have the *būdi* element. The *Gazetteer* includes a number of other names with *būda*, *bū*, etc., which may be inferred to carry the same meaning, but as I have been unable to verify them I have not included them. I have also added any names derived from other sources in which *būdi* is found. The result is interesting. Apart from a few strays in Madhya Pradesh (for example, *Budipahar* in Chota Nagpur), and outliers in the north of Andhra and Orissa (for example, *Budi-sindol* and *Buditi*), and the single example *Budigavhan* in the Tapti valley, the distribution is firmly centred upon the N. Karnataka. There are also a number of names from Andhra Pradesh. The *Būdihāl* group occur chiefly in Gulbarga and the Krishnā-Bhīmā Doāb, and in the western parts of Raichūr Doāb. They are then found in the south around Kolar, and once in Salem. The other varieties of name lie mainly to the east of this series. Through the Raichūr Doāb, Bellary, Anantapur, they extend eastwards in odd instances into Andhra Pradesh. This distribution is mainly Kannada: its southern extensions into the Nilgiris and southern extremities of the Mysore plateau where *Būdibadaga* (the scene of a Badaga festival whose legend is quoted by Rivers) and *Būdiyūr* appear as Kannada extensions. The main series, however, cluster firmly around the districts which form both the centre of the Deccan Neolithic culture and of the ashmounds. This, we feel, confirms our hypothesis that there is some connection between the ashmounds and the *būdi* place-names. There is also enough evidence to show that these names, and the names used for some of the mounds themselves, were originally connected with cattle. The names *Ettina-Būdihāl*, 'ox's ash settlement', and *Narri āvula gaṭṭu*, 'the mound of grey cattle and kine', point in this direction. In other cases the connection has been lost.

All this is very suggestive, since until recently there has been no suspicion that the ashmounds were connected with burnt cow-dung. Now we are led to wonder if the *būdi* place-names do not conceal an active folk-memory of the ashmound practice, although it has been extinct for some 3000 years. It may even be, in view of our general hypothesis of cultural continuity from Neolithic times, and of the Deccan Neolithic culture being associated with the first introducers of Dravidian into South India, that the *būdi* place-names are direct survivals of cognate names by which the ashmounds were known by their makers.

2. TRADITIONAL ACCOUNTS OF THE MOUNDS

Although the mounds are so unobtrusive as to have missed general attention, and rarely have specific names, some, which by virtue of their prominent positions fell near the routes of pilgrims, etc., have been associated with mytho-

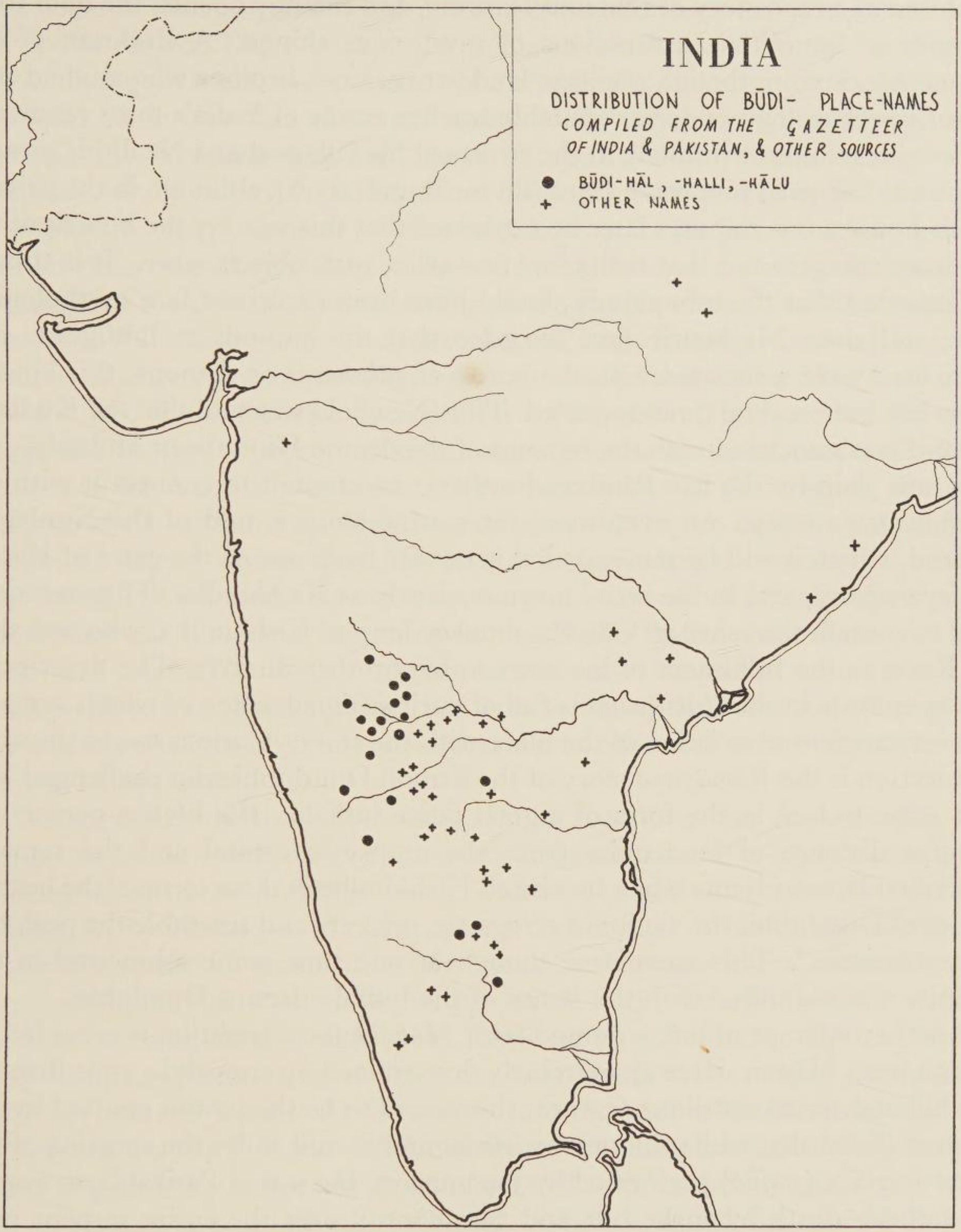

INDIA
DISTRIBUTION OF BŪDI- PLACE-NAMES
COMPILED FROM THE GAZETTEER OF INDIA & PAKISTAN, & OTHER SOURCES
● BŪDI-HĀL, -HALLI, -HĀLU
+ OTHER NAMES

Fig. 16. Map: distribution of *būdi* place-names.

logical events. This is not surprising in a country which has venerated the Brahmin as a repository of religious learning, and thereby opened the door to all manner of 'pandit's' explanations of mysterious things. A Brahmin of our acquaintance who, though a village landowner, has a brother who studied prehistoric archaeology under a reputable teacher at one of India's most renowned universities, told me publicly in the streets of his village that a Neolithic ground stone axe I showed him was a *vajra* (divine thunderbolt), although in the privacy of his house a few minutes later he explained that this was for the benefit of the ignorant villagers and that really he knew what such objects were. It is thus to be expected that the ashmounds should have been explained in a mythological way, and since Mackenzie first recorded that the mounds at Būdigunta and elsewhere were associated with the bones of *rākshasas* or demons, this kind of story has been several times repeated. Thus Newbold was told that the Kudatini mound was associated with the remains of the demon Hiḍimba or Hiḍimbāsura, who was slain by the five Pāndava brothers: an attempt to connect it with the *Mahābhārata* story. An even more interesting story is told of the Nimbāpur mound, which it will be remembered is not far from one of the gates of Hampi (Vijayanagara), and in the area known anciently as Kishkindha. This mound is said to contain the ashes of Vālī, the monkey king of Kishkindha, who was slain by Rama in the fulfilment of his vows to his brother Sugrīva. The description of the episode in the *Rāmāyaṇa* is full of curious detail, some of which suggests the very ancient association of the place with the story. Curious too in the same connection is the *Rāmāyaṇa* story of the demon Dundubhi who challenged Vālī and came to him in the form of a great fierce buffalo. His lifeless corpse was flung a distance of four miles from the monkey's capital and the remains described later to Rama when he visited Kishkindha in these terms: 'the heaped bones of Dundubhi, the victim of arrogance, are here and resemble the peak of a vast mountain'. This sounds as though at one time some ashmound in the vicinity was identified with the bones of the buffalo demon Dundubhi.

Another attempt to link a mound with *Mahābhārata* tradition is recorded by Munn from Mānvi. Here an extremely fine-grained, narrow dyke runs through the hill and forms a striking feature: this is said to be the poison emitted by the serpent Takshaka, while the nearby ashmound is said to be the remains of the great sacrifice (*yajña*) performed by Janamejaya, the son of Parikshit, to avenge his father's death by snake-bite and gain control over the entire serpent race.

Thus we find that local pandits have sought to explain the mounds with reference to episodes from the epics. Those connecting them with the *Mahābhārata* are of little special interest as they do not have any ancient sanction, and the geographical situations in no way tally with the original stories. The

Rāmāyaṇa connections are more interesting since they raise the whole question of the age of the Kishkindha episode and the association of the name with this particular region. There are several points which suggest that the Kishkindha association goes back at least to the time of Vālmīki, the traditional composer of the epic. It is true that there are some details which do not at all fit, as for example the description of the lake of Pampā. Today this is a small, square, artificial tank, of doubtful age. But much else has an unexpected ring of truth. For example, the descriptions of *vānaras* (monkeys *or* forest folk), dwelling in caves and on rocky hills, using only sticks and stones for tools, etc., is most strongly evocative of the picture now unfolding of the people of the Neolithic culture of this area. As I have pointed out elsewhere, a large Neolithic cave settlement at Sivapur is only a few miles removed from Hampi and well within the ancient Kishkindha. This site also includes an ashmound. On the other hand the suggestion is that whoever collected the source material or made the observations which Vālmīki used cannot have been aware of the original, mundane purpose of the ashmounds. Thus he may either have been no more than a casual visitor, or he may have visited the area at a time when the ashmound practice was no longer current. As we must expect stone tools to have disappeared reasonably fast after the beginning of the South Indian Iron Age, which we date from the fifth or fourth century B.C., we have reason to expect the Kishkindha episode to reflect information from not later than that time, being after the ashmounds had been abandoned as cattle-pens and before the stone tools entirely disappeared.

A completely different sort of tradition regarding the mounds has been preserved by, one suspects, the non-Brahmin sections of the population, or at least by some of the humbler castes. The first record of such an account is in Knox's MS. 'Notes on the Kupgal rock paintings'.[1] Referring to the two Kupgal mounds he states that 'the villagers attribute these mounds to old Lambady cattle, the Lambadies being a wandering tribe who formerly acted as carriers, moving about with great herds of pack bullocks, lighting fires at their camping places to scare away the wild beasts'. More than 50 years later and over 120 miles away Munn's surveyors recorded a similar story from the villagers of Utnūr. This was published thus: 'the villagers say that this ashmound is the original site where old shepherds used to pound their cattle and where fire was burnt to keep off wild animals'. When I visited the mound in 1957, twenty years later, I was surprised to find that the villagers could not understand the need to excavate it. They agreed absolutely with my hypothesis, because it tallied so exactly with their own traditional account of the mound.

[1] See p. 48 above.

The story I recorded from the mouth of a Golla from the neighbouring village of Sankāpur is in these words: 'In old times there was a tribe of wandering cattle-breeders, like the modern dealers who come from Guntūr with their Ongole cattle. This place is one of their camp sites where they used to camp, and empound their cattle at night time. They burnt fires to keep off wild beasts.' A somewhat different version of the tradition is contained in Subbarao's note on the Gudikallu mound. Here the villagers told that the mound was the site where cattle had formerly been kept and burnt. The exact meaning of this tradition is not clear, perhaps there was some slight inaccuracy in its recording, but it seems to be linked with that of the other sites. As we have seen, the name of this mound also links it firmly with the keeping of cattle.

There remains only one other traditional explanation, which is found at Kupgal and at Wandalli. At the former the villagers told Subbarao that the mounds were *kolimi dibba*, smiths' heaps—presumably slag heaps from some iron-working process. The villagers at Wandalli told us (in 1957) a somewhat similar tale, but I am inclined to think that it arises from a memory of the days when Captain Munn and the engineers from the Hutti gold-mines were searching for an explanation for the mounds, for it was produced by a villager who knew all about the nearby gold-workings and the many archaeologists who had visited the mounds in the recent past.

To summarize the evidence we have collected in this chapter. There are a number of village and place-names containing the element *būdi*, ash, and in at least one case the suggestion of sacred cow-dung ash, *vibhūti*, is present. Several of the ashmounds are also known by names involving the *būdi* element, and the probability is that the other village names also arise from the existence, or former existence, of ashmounds upon their lands. Several of the names also link the mounds or 'ash' villages with cattle and in one case with the ash of cattle. Turning to the traditional explanations of the mounds we have discussed the various mythological stories and decided that they seem in most cases to date from a time when the ashmounds were already in existence and when what we call the ash-accumulation practice or custom was already abandoned. On the other hand, there are three cases of widely separated mounds where, during the last century, traditional stories were told associating them with wandering cattle-breeders, likened to the Lambadis, who camped there and burnt fires to scare away wild animals.

Thus we arrive at the amazing conclusion that there is in existence, in place-names and local traditions, a folk-memory which associates the ashmounds with some sort of cattle-penning practice. The significance of the place-names and of this tradition was overlooked by all the scientists and antiquarians who have

considered the problem, with the partial exception of Bruce Foote, whose insight we have already noticed. Its presence is highly suggestive in the context of general cultural continuity in the region, since it preserves a living memory of the actual ashmound process; while we have seen evidence that *if* there is any factual basis for the ethnographic elements of the Kishkindha episode of the *Rāmāyaṇa*, and they may even include recollections of inexplicable mounds of ashes as the bones of Vali and Dundubhi, these date from a casual outside contact, probably after the end of the ashmound period, but while the cave settlements and stone axes were still in general use. The apparent success of our research in this aspect leads us to look for other survivals with which we may interpret the ash-accumulation process.

CHAPTER 7

MODERN PASTORALISM IN INDIA

The keeping of cattle is, in India, as old as civilization, and throughout her history cattle have been regarded as wealth and divine blessings. We may infer from the frequent depictions of *Bos indicus* and other breeds upon the seals of Harappa and Mohenjo-Daro that cattle already played no small role in those cities; also in the Rigveda, the earliest texts of the Aryans in India, we find numerous references to cattle as an important source of wealth, to the existence of great herds of cattle with their attendant *gopālas*, or cattle herds, and to the fact that the flesh of both cows and bulls was used for food. The cattle were herded in pens named *go-ṣṭha*, cattle standing places, or *go-tra*, pens for the protection of cattle. This latter word only came later to acquire its now more familiar meaning of a collection of cattle, hence a family lineage or clan. This transference probably came about through the concept of the cattle of one pen being those that were owned or held in common by one such clan group. Throughout the subsequent literature in the *sūtras*, *brāhmaṇas* and *upaniṣads* the same regard is constantly shown for cattle. Such attitudes are common to cattle-keeping peoples in many parts of the world and may not be used to show that the tradition originated in the Indus cities and was later taken up by the Aryans, or any other hypothesis, unless there are more solid data to support contact. It does seem, though, that there has been in India, since sufficiently ancient times, a tendency towards a special respect and ritualization of cattle-keeping. Thus when we consider the interpretation of the ashmounds in cultural-historical terms we shall do well to consider what forms modern pastoralism takes and what kinds of rituals are today associated with cattle-keeping. Cattle are today kept throughout the length and breadth of the sub-continent, and we can only select such groups as are in some way related to our inquiry; for example, the modern scientific herding methods which have been introduced on military and government farms will not concern us, nor will the cattle-keeping of North India, as it is physically so remote from that of the Peninsula.

India presents a great diversity of cultural levels ranging from hunting and collecting economies of such groups as the Kadir or Chenchu to the modern state capitalist, social democratic economy of the public sector. In between there is a great series of groups with different ways of life and different economies.

It has been pointed out with perfect reason that many of these groups exemplify the evolutionary progress of human society, from savagery into various sorts of food production, from tribal barbarism into city and peasant communities. In this scale the pastoralists appear first at a certain level and recur at different levels from the isolated jungle tribes with only a few beasts to the large-scale cattle-breeding of those groups who supply the requirements of the settled farming communities of the plains.

Before we turn to the modern ethnographic evidence, it may be well to mention the remarkable picture of the pastoral groups given in the early Tamil *Sangam* literature, dating from the opening centuries of this era. It is well known that in these texts there is a division, made no doubt for poetical purposes rather than those of geographical analysis, of the Tamil land into five tracts, each associated with a particular occupational group. The tracts are the *kurinci* (mountain), *neytal* (litoral), *marutam* (cultivated), *mullai* (forest), and *pālai* (desert). With the forest tract is associated the pastoral group, *Āyar*.[1] Kanakasabhai writes of the Āyar as a distinct race, but perhaps group is a better term. The name Āyar probably derives from the common Dravidian word *ā*, cow.[2] They are described, along with the agriculturalists, as having reached a stage of tribal kingship, Kon, within the boundaries of the Chola country, but as having been overthrown by the great Karikālan Chola (*c.* A.D. 190).[3] At least it is worth recording that the Tamil word *Kōn* means both king and herdsman and that *āycci* means both queen and herdswoman. The word *kōn* is derived from *kōl*, a herdsman's staff.[4] The Āyar of the Pandyan country in the Madura and Tinnevelly districts had a tradition that they had come south with the founder of the Pandyan family. They worshipped *yakshas*. They are spoken of as worshipping Krishna, and indeed the Tamil *Sangam* references to *Māyōn*, the Dark One, have been noticed as probably the earliest indications of the pastoral aspect of Krishna Gopāla's nature; for in North India his first description is as the hero of the *Mahābhārata* story.[5] The forest villages of the Āyar are vividly described in *Pattu-pāṭṭu*, they were surrounded by a thorn hedge, they are full of cow-dung, cattle, sheep and goats are tethered in them. The pastoralists themselves also cultivated millet. Their herds grazed in the hill forests, and one could encounter their night stations, with great herds of bulls and cows, sheep and goats, assembled near fires for protection from wild beasts. The herdsmen lie on the ground on beds of sewn sheep-skins beside the fires.[6] It has been

[1] See particularly P. T. Srinivas Iyengar, *History of the Tamils* (Madras, 1929).
[2] V. Kanakasabhai, *The Tamils Eighteen Hundred Years Ago* (Madras, 1956), p. 57.
[3] See J. V. Chelliah, *Pattu-pāṭṭu* (Colombo, 1946), p. 19; Sivaraja Pillai, *Chronology of the Early Tamils* (Madras, 1932), pp. 192–4.
[4] Srinivas Iyengar, *op. cit.* pp. 9–12.
[5] *Ibid.* p. 77.
[6] Chelliah, *op. cit.* pp. 89 and 216–17.

suggested that the modern pastoral caste names Idayan and Kolayan derive from the name Āyar, but these descriptions could well apply to many other castes, and as we shall see modern observers have often echoed the very words of the texts, quite unwittingly, in describing them.

The Todas represent the most extreme example of a pastoral tribal group in peninsular India. They do not necessarily represent the most primitive of such groups, nor—perhaps strangely—that which gives evidence of the more progressive pastoral traits which have survived elsewhere. There is, indeed, good reason to regard the Todas as a group who broke away from contact with their neighbours in the South Indian Iron Age or even later in the early historic period (first centuries A.D.), and have since then lived in the peculiarly isolated conditions of the Nilgiri hills. There are no clear indications that the Todas ever had any of the traits which we may regard as characteristically Neolithic, although living in this unusual environment they have preserved traits which may reflect those of that period. The plateau of the Nilgiri hills provides an environment of a very peculiar sort between 6000 and 7500 ft. above sea-level: the hill slopes are all steep and often precipitous. Anyone who has motored up from either Mysore or Coimbatore will know that the road, with its many hair-pin bends and its many miles of unbroken ascent, is no joy-ride: anciently the approaches must have been equally difficult. Another important feature is the sense of climatic isolation which the plateau affords. It forms, as it were, an island surrounded on all sides by steamy heat. It is not difficult to understand that once men settled there with a certain level of technical and economic capacity they would be contented to remain. Thus the Todas have remained for fully two millennia, cut off from all direct contact with the outside world, growing inwards towards the amazingly specialized ritual which surrounds their whole pastoral practice.

Physically the long-headed Todas, with their curling locks, recall certain northern types, but linguistically they speak a Dravidian dialect which preserves features of old Tamil. There can be no doubt that here too they are ingrown. There seems to be no evidence for their ever keeping cattle: their entire life centres around the keeping of buffaloes.[1] This raises an interesting problem, since we have seen that at several Neolithic sites in the Deccan there is an absence of buffaloes, which only appear at a later date. Another noteworthy feature is that they only eat the flesh of the *sāmbhar* deer. Otherwise they eat the flesh of the buffalo ceremonially, but they take no other flesh foods, their main diet consisting of milk products, grain, rice and sugar. Anciently, Toda

[1] This whole summary is based primarily upon Rivers's *The Todas* (London, 1906), with reference to Breeks and Thurston. The archaeological inferences are my own.

tradition affirms, various plants, herbs and honey took the place of the last three acquired commodities. The isolation of the Todas is limited by one important feature: that they share the plateau with certain other groups, particularly the Kotas and the Badagas. When Rivers wrote (1906), these people numbered 1200 and 34,000 respectively, against the Todas 800. How and when they arrived in the plateau is as mysterious as it is with the Todas, but all three in some respects are more progressive than the Irula and Kurumba tribes who inhabit the lower slopes of the hills, while among them the Todas occupy a socially superior position. The arrival of the Kotas and Badagas on the plateau is probably much later than that of the Todas. We shall have more to say of the Badagas below.

The Toda village consists of a group of huts, rarely more than six, surrounded by a stone wall with narrow entrances to prevent the entry of buffaloes. The huts are of an unusual design which has given rise to much speculation. The dairies (for there are often several of various ritual status for each village) are situated at a little distance. So too are the cattle-pens. Both are generally surrounded by a stone wall, but the pens (*tu*) are also sometimes made of wood. The whole of Toda life is governed by the extremely complex ritual organization of the dairies and herds. We cannot enter into a detailed discussion here of this organization for it would demand too much space, but it must be noticed that there are herds of common beasts and herds of sacred ones. These enjoy different rituals, are herded in different pens and their products are treated in different dairies. The buffaloes are penned at night in the pens and driven out to graze during the day. The men who look after them are of variously graded status and each has his minutely regulated duties. The dairy buildings are also of two types, the more sacred being of a curious conical form, with circular plan. In addition to the dairies at the settlements there are also special *ti* dairies associated with certain of the clans. These are situated at a considerable distance from any settlement. With the *ti* dairy are huts for the dairymen and pens for the beasts: the whole assemblage is known as *ti mad*, the *ti* settlement. There is often more than one pen, for beside the common pen there are special ceremonial pens, as well as calf-pens. As at the villages the various parts of the *ti* dairy are screened by walls, usually of stone.

A special feature of the Toda year is the migration of the buffaloes, both of the village and of the *ti* dairies. These seasonal migrations correspond to the dry months when pasturage near the villages becomes scanty, and the need for fresh grazing is doubtless the basic cause of the migrations. A second explanation is given which is quite in keeping with the fossilized state of Toda life: certain of the places visited have an ancient traditional sanctity, and the visits are thus given a ceremonial importance. Rivers gives a minute description of

these migrations, together with the way in which the various items of dairy furniture, lamps, etc., are carried.

We pass over the highly complex ceremonies which attend the life and death of the Todas themselves. The funerals in particular have rightly attracted much interest and are fully described, but they have little bearing upon our present theme. We shall return later to some of the more narrowly religious aspects of the Toda buffalo cult. To summarize the above discussion we must recall Rivers's opinion that many aspects of Toda culture are degenerated from a once more active and meaningful way of life, and exist today—if at all—in fossil form. There is a repeated suggestion that the description of the various herds, their sacred stratification, their migrations and differing rituals, conceal some sort of ancient material meaning which has long since been forgotten. Thus, while we may expect to find ancient elements in every part of Toda life, we must be prepared for the process of isolation to have contributed more and more to the minute organization of this ritual structure, and to the gradual decay of the older pattern.

Mention has been made of the Badagas. This caste or tribe, which shares with the Todas and the Kotas the plateau of the Nilgiris, is agricultural rather than pastoral. We shall meet them again in considering the pastoral elements in their religion, and we may well touch upon the main outlines of their culture. The name Badaga has been plausibly connected with the ancient Tamil *Vadugan*, Northerner. Not only does tradition link them with Mysore, but also they speak a Kanarese dialect. Thurston gives the fullest description of their life, and Breeks has also written of them.[1] The former writer uses terms which echo closely those we have used (in our *Piklihāl Excavations*) to reconstruct aspects of the Neolithic people of the Deccan. They make small fields upon the rocky hill-sides, using stone retaining walls and little terraces. Thurston writes 'nobody can beat the Badaga at making the rocky hill-side produce crops'. They also keep cattle and use the bullocks for ploughing. The cattle are kept in stone pens reminiscent of those of the Todas, although their houses are quite different. The pens are described as being waist-deep in litter—a most suggestive phrase. When it reaches this depth the litter is now carried away and sold as manure for the estates. There are other features which recall the Todas; for example, the dairy houses. Many aspects of Badaga life and religion are however quite foreign to the Todas and point to more recent contact with the broader cultural streams of South India. An example will be seen in the Badaga version of the Pongal ceremony. Another feature which deserves note is that in the Sakalathi festival

[1] E. Thurston, *Castes and Tribes of Madras* (Madras, 1909), and J. W. Breeks, *An Account of the Primitive Tribes and Monuments of the Nilagiris* (London, 1873).

in October their houses are adorned with pictures of bulls and cows drawn on the walls in wood ash.

Among the constellation of occupational castes each region of India has its own pastoral groups. Almost everywhere names deriving from the Vedic *gopāla*, cowherd, are predominant. In the Peninsula they are represented by the castes, or perhaps sub-castes, included as Gollas, but there are numerous other groups who are also largely or wholly pastoral, such as the Udaiyans of Tamilnad and the Kannada-speaking Kappiliyans of Madura and Tinnevelly districts. There are others who have come, through the vagaries of history, to earn their livings primarily as cattle keepers: among these the Lambādis are notable.

The Gollas are generally agreed to derive their name from the Sanskrit *gopāla*, which in North India passes through Prakrit *goāla* into the modern caste name *Gwāla*. The word occurs in old Kannada as *Gowaḷī*. Other variants also occur in South India, in such forms as *Gollavāru*, *Godlavāru*, etc. The Gollas are found in their several forms in Mysore, particularly the central and north-eastern parts, throughout Andhra Pradesh and also in Madras, in those districts which have now been transferred to Andhra Pradesh, and which contained a majority of Telegu speakers. They have long been divided into at least two main groups, the Ūru Gollas, or settlement Gollas, and the Kādu, or jungle Gollas. Although there are sufficient features to separate the two groups it appears that both may have originally derived from a similar cultural stratum. Both associate their name with Krishna Gopāla and the Krishna story, and trace their origins back to the north. Hence they adopt such titles as *Yādava-Kula*, and *Krishna-kula*, while they also use the term *Gō-kula*, the cow tribe. We shall discuss the Ūru Golla first and then the Kādu Golla.

The Ūru Gollas have now attached themselves to the villages of Andhra as a pastoral caste. They retain stories of their former glory and recall that once they had a line of Golla kings. They use the term *Golla-Rājulu* in this context. They enjoy to this day a high social status in the caste hierarchy, standing at the top of the occupational caste group, immediately below the 'twice-born' castes and equal with the Kapu-Kamma-Reddi agriculturalists.[1] Yet they have sometimes almost lost the original caste occupation of cattle-herding in exchange for the herding of sheep and goats. The caste is divided, as are so many of the Telegu castes, into exogamous clans many of which are named after some plant or animal. Such clan names suggest that in the past they had totemic associations. Among them we may note elephant, horns, monkey, spotted cow, banyan tree, goat, ram, *pīpal* tree, cobra, etc. The Gollas generally occupy a separate block in the village. They sometimes also own small plots of land, and impound their

[1] S. C. Dube, *Indian Village* (London, 1955), pp. 36 and 64.

herds of cattle and sheep in pens constructed in the fields outside the villages. They train dogs to assist in the herding. I have been unable to ascertain many things connected with their occupation and its economic basis. It is not clear whether the Ūru Gollas still actually own their flocks and herds or herd them for others, nor whether they breed cattle for sale, sell milk and other products, etc. It appears that when the Gollas settled down and became attached to villages they lost something of their earlier economic status: but this, too, needs more factual evidence than I have been able to find.

The Kādu Golla or jungle Golla are better described than their village equivalents. This is largely owing to the remarkable account left by Buchanan-Hamilton,[1] and to the materials collected by Ananthakrishna Iyer.[2] The Kādu Gollas have only been reported in Mysore, where they speak Kannada; but they are said to have adopted the language prevailing wherever they have settled. They live in separate villages, in the neighbourhood of lands affording abundant pasturage, hedged around with thorn hedges, either prickly pear, *jali* thorn or milk bushes. This description calls to mind the pastoral villages full of manure, surrounded by thorn hedges, of the *Pattu-pāṭṭu*.[3] They frequently move from one site to another. Their houses are thatched, with wattle or mud walls, or simply open posts. The roofs are of thatch or leaves and generally gabled. A village (or *haṭṭi*) is said to consist of a number of families of the same exogamous group. Their personal belongings and domestic utensils are few and are compared by Iyer to those of the Myasa Bedas and other jungle tribes. They are organized into three primary exogamous clans, known as Chittamuttoru or Karadi Gollaru (Bear Gollas), Chandranoru or Moon Tribe, and Rāmē-gaudanakuladavāru, the descendants of Rāmē Gauda. These groups are divided into further exogamous divisions, once again recalling totemistic objects, with names including Milk hedge, He-buffalo, Hoe, etc. They practise some small-scale agriculture, but their main occupation is the breeding of sheep and cattle. Their herding was described minutely by Buchanan and we follow his description. Buchanan remarked on the two different breeds of cattle to be found in Mysore, the one a small brown or black animal of docile nature which was kept in the (settled) villages for milking purposes, the other a much larger, fiercer strain, kept in the forests by the Gollas. This strain was pure white in the cows and mixed with black in the bulls. As a rule the Kādu Gollas live in localities where lands are abundant for pasturage and cultivation. At night the cattle are shut up in pens which are strongly fortified with thorny bushes to defend them

[1] F. Buchanan-Hamilton, *Journey through Mysore, Canara and Malabar* (London, 1807), vol. 1, pp. 299–302.

[2] L. K. Ananthakrishna Iyer, *Mysore Tribes and Castes* (Mysore, 1930).

[3] Chelliah, *Pattu-pāṭṭu*, Perumpanarttupadai, lines 180–1.

from tigers. When local failure of rain occasions a want of forage near their huts they sometimes drive their herds to other groups of Gollas, giving them the dung of the fold for the trouble, or else they live in the midst of the woods where small reservoirs have been formed to supply the cattle with water. All the breeding and young cattle are carried on these expeditions, leaving a few labouring buffaloes and cattle in the charge of the women at home. At this time they never sleep in a hut, but wrapped up in their blankets and accompanied by their dogs they lie down among the cattle within the folds where all night they burn fires to keep away the tigers. Sometimes these ferocious animals break through the fence and carry away sheep and goats. Each kind of cattle must have a separate fold from which they are driven at sunrise. The calves get all the milk except for a little used by the herdsmen, but the cows are milked every morning and this is done by the men. The cattle are once a day conducted to water and the calves after they are a month old follow their masters to pasture. A flock of a hundred small cattle requires the attendance of two men and two dogs, and these have more profit from their own small herd than those who serve the rich to take care of cows. The herds, Buchanan noted, were entirely managed by the Gollas, but the greater part were owned by wealthy inhabitants of towns who merely hired them.

There is some discrepancy between Buchanan's picture of the Gollas and Iyer's. Iyer describes the Gollas as living a miserable existence—dirty, scabrous and offensive. They wear no clothes except a blanket, and have few possessions. On the other hand they have a high social status, regarding themselves as superior to the Ūru Gollas, being permitted to enter the innermost parts of temples, etc. Their diet includes fish, fowls and small game, as well as sheep, but not, apparently, beef. Buchanan suggests that they were not altogether without substance, while Iyer compares them with such tribal groups as the Myasa Bedas. Unfortunately, neither this problem nor the many others which arise concerning their life and culture can be answered without further field observation and information.

An account of cattle-herding differing in few respects from that recorded by Buchanan is given by Littlewood in an interesting paper on the Alambady cattle.[1] The breeding grounds of these cattle, which are also classified as of the Malai-madu breed of hill cattle, are in the hilly forests of North Salem district. The herds are kept in the forests in pens, and are let out to graze during the daytime. They are in the hands of professional cattle breeders, whom the author unfortunately refers to simply as *ryots* without revealing their caste or language group, and who have villages to which they return with their herds at the

[1] 'Alambady cattle', *JMGA*, I (1936–7), pp. 126–9.

harvest time. The dung is used to supply the manure for the next *ragi* crop. The herds which go off for the annual excursions into the forest grazing grounds are the breeding stock. The young males are sold off for draught purposes as yearlings. For this end there are regularly established fairs, at Krishnagiri and Dharmapuri, but the animals are often taken for long distances to their new homes. The stock is good and has a wide reputation. This account indicates that a century after Buchanan wrote, the same sort of cattle-breeding was continuing in this area, and indeed something similar continues to this day in many parts of India. Before I describe similar herds in the north, a word must be said about the name Alambady. This evidently derives from the name of a deserted village of Alambady near the centre of the forest grazing grounds. It is tempting to see some connection between the name and the Lambādi caste. Indeed, it may even be that the cattle breeders belong to that caste, and that they have become absorbed in the general pastoral practice of the region. Whether this be so or not, the Lambādi caste forms a peculiarly interesting pastoral group in peninsular India and one which throws important light upon the whole nature of culture contacts among peoples of semi-nomadic, semi-pastoral occupations in such an environment. It will therefore not be amiss to consider something of their history and character.

The Lambādis or Banjāras are beyond doubt of northern origin.[1] They are known by a variety of names, Lambāni, Lamāni, Labāni, Brinjāri, Boipāri, Sukāli, etc. Of these the most interesting historically appears to be Banjāra which probably derives from the Sanskrit *vanijyakāra*, through a Prakrit form *vanijjaārao*. They are a caste of caravan drivers and carriers whose dialects, although now mixed with the local Dravidian and Indo-European dialects, still reflect their origin, in a Western Rajputana locality. They are now found over large parts of southern and western India, having settled at various times in various places. It has been pointed out that these caravan leaders have not only travelled in pursuit of trade, but that at different times they were taken into the service of armies, and became an essential element in the supply system. Thus it is to be expected that the Banjāras of the south will by and large all be the remnants of groups who moved southwards during the past five or six centuries, and who, for whatever reason, settled in these distant areas. Their dress, particularly that of the women, also betrays their northern origin. During the great campaigns of the Middle Ages and even of the period of European colonial activity, the large armies involved needed considerable supplies, and while these had to be carried upon pack-bullocks, the numbers of beasts required ran into

[1] My account of the Lambādis almost wholly follows Thurston's *Castes and Tribes of Madras*, and L. A. K. Iyer's *Mysore Tribes and Castes*.

many thousands. It seems more than probable that even anciently the Lambādis would have been involved in the breeding of cattle as well as driving. With the passing of the utility of pack-bullocks (which to this day are used in remoter parts of Central India) an important change must have come over the way of life and economy of the Lambādis. Throughout the Deccan they have settled down in their own separate encampments or *thandas*, remote from established villages and usually situated on waste land. This is probably because all the cultivable land was already taken up and owned by the time that they came to settle. Both men and women have turned to a variety of occupations, ranging from various sorts of manual labour and artisans' work to small-scale agriculture, trade, and cattle herding and breeding. Certainly in the Ganges valley the sale and purchase of cattle is described as the most important trade of the Banjāras.[1] There seems to be considerable local variation in their modern occupations. They have acquired a reputation for thieving and criminal activities. A reputation which is not perhaps altogether justified.

There are but few indications of the herding practice of the Lambādis. The camping methods of the caravans are interesting. They selected a piece of level ground, cleared it and lit fires all around. Another source mentions that they thought themselves immune to the attacks of tigers if they followed a certain routine, and that as soon as they encamped they levelled a square bit of ground in the centre of which they lit fires. They believed that no tiger would enter the square (? of tethered beasts, etc.) for fear of being blinded by the fires. It is presumably of such camps that Fawcett's informants spoke at Kupgal. In the Cuddapah district they are found chiefly collecting firewood and jungle produce, and in Bellary as wood-cutters, carriers and coolies, but some too have settled down to agriculture. Here a village was described with its one-roomed huts, and its cattle tied up in any available spot of the village site, 'so that the whole village is a sort of cattle pen'. Their huts are of wattle and daub, with pitched thatch roofs, unlike the flat mud and timber roofs of the majority of houses in the vicinity. Many of these features appear in the Lambādi village figured in Pl. 11 *a*.

It appears quite probable that the Lambādis then are in some way connected with the breeding of the Alambady cattle. Once again there is a dearth of reliable information about the actual economy and pastoral practice, but it seems that among such groups as have adopted, or retained, cattle-breeding traditions their whole way of life is not unlike that of the Gollas.

Another problem which would be worth investigation is how far the Deccan cattle traders extended their activities. There is a tantalizing reference from Khandesh to '*Kānaḍa gāvalis*. . . a peculiar race of drovers, with a peculiar breed

[1] W. Crooke, *Tribes and Castes of the North-Western Provinces and Oudh* (Calcutta, 1896).

of black and white cattle, known as *Haṭakāra*, which were small but strong',[1] and Crooke too refers to the 'Hatkars' of the Central Provinces.[2] Joshi has commented upon this word by pointing to old Kannada lexica where the name *Haṭṭi-kara* appears as a synonym of *Gowaḷī*, with the meaning 'cowherd'.[3] Whether these drovers were merely another branch of the ancient caravan drivers or whether they were breeders is not clear.

The cattle-breeding practice of the hills to the south of the Ganges valley seems to have much in common with that of the Deccan. I do not propose to discuss the caste organization, nor the practice in any detail, but it is perhaps worth pointing to a number of notes which my wife and I made while working in the Vindhyas and Kaimur hills in 1957–8. In the hills of South Mirzapur district, some miles east of Robertsganj, in the middle of the forest we came on a cattle station, where herds of breeding cattle were grazed, prior to selling in the fairs. There were about eight or ten enclosures in a clearing, each of some 40 ft. in length, roughly square, with sides of light wattle reinforced with thorns. On one side of the clearing there were four mounds of cow-dung, each from 3 ft. to 4 ft. in height and about 18 ft. in diameter (Pl. 12*a*). The dung is purchased on the spot by potters from the neighbouring town (Robertsganj) and taken back for use in their kilns. At another site immediately below the fort of Vijayagarh we came across three more such pens. These were near-squares, some 30 ft. across, made of upright poles some 4 ft. apart, with the interstices filled in with brushwood and thorn (Pl. 12*b*). Inside these pens the dung had been allowed to accumulate to a depth of 2–3 ft. South of Robertsganj and the Son river, west of Dudhi, the forest is apparently virgin. Here too we saw several circular cattle-pens, the walls made of bamboo lattice fencing, often built around a great tree to provide a roof. There were also a number of smaller, square pens. In this country there are still many caravans of pack bullocks. Farther west, in the hilly country between Mirzapur and Rewa, we saw many comparable cattle-pens. They are found in two sorts of context, either alongside farmhouses, or in the jungle. Here too we noticed several examples built around a large tree. Those which are intended for sheep and goats are smaller and lighter in construction, while those for cattle are more heavily built, often with wooden posts in the fence. All these pens are in the hills and forests of Central India. They are the bases used for breeding and grazing the herds of bullocks which are each year sold to the villages of the Ganges valley. In the Deccan a rather different form of cattle-pen is in evidence. This still favours the thorn

[1] *Khandesh Gazetteer*, p. 106.
[2] Crooke, 'Bull-baiting, bull-racing, bull-fighting', *Folklore*, XXVIII (1917), p. 154.
[3] Joshi, 'Etymology of place-names *Paṭṭi-Haṭṭi*', *ABORI*, XXXIII (1952), p. 50.

hedge, whether in the very precincts of a farmhouse or in the open.[1] Sometimes these pens retain the very same sort of situation as the ashmounds. There are, too, timber stockades around the pens of South India, and Rivers illustrates an example from the Nilgiris, but I have not personally been able to record any.

There is however one aspect of pastoral practice that gives little help in our problem. Throughout India today cow-dung has acquired an economic importance which means that vast conflagrations, and incidentally vast accumulations of the sort presupposed by our excavations, are no longer in vogue. The accumulation and storage of cow-dung is now largely related to its use for domestic fires and for such special industrial functions as the potters' kilns. Thus at Uppal I photographed in June 1957 two large stores of cow-dung (see Pl. 11*b*). This had been dried and prepared in cakes of the standard Indian variety. A foundation of stones of a foot to 18 inches had been made, allowing plenty of room for the entry of air, and on it a platform of wooden poles had been laid. On this the dung had been built up in a domed bee-hive shape, in one instance to a height of about 6 ft. in the other to about 12 ft., with a diameter of about 10 ft. The whole had then been neatly plastered over with mud. In the following January I noted in my diary that during a drive from Kānpur to Allahabad the patterns of such cow-dung stores changed. In the west, between Aligarh and Kānpur, the stacks are generally rectangular in shape, with cow-dung-plastered exteriors sometimes decorated with incised patterns—some fan-shaped and some in wavy lines or herring-bone patterns, while the roofs are often gabled, making to all appearances a miniature house. Farther east the pattern changes and the round bee-hive type appears. At this time of the year, in this area at least, the stores are just completed and the plastering finished.

We may now round off this survey of cattle-keeping in the Deccan and Central India. There are a number of groups who are still more nearly tribes than castes and who keep either cattle or buffaloes. The Todas are a peculiar example: it is quite possible that they represent a stagnating group who have retreated from a less-specialized way of life to their isolated Nilgiri pastoralism. The Gollas present a different state of affairs. As with the equally widely diffused Kurumbas and Kurubas they comprise many different economic levels, ranging from isolated jungle groups to those who have attached themselves to villages. Unlike the Kurumbas, who are primarily shepherds and who in some cases also weave woollen blankets, the Gollas are in almost all cases cowherds. Their ways of life appear to be adaptations to changing circumstances. The jungle Gollas have often become involved in large-scale cattle-breeding for the agricultural market, while

[1] Allchin, *Piklihāl Excavations* (1960), pl. 60*b*.

the village Gollas have been accepted at a quite high social level, but are economically often oppressed. The picture is quite consistent with both these groups being pre-agricultural and having adapted themselves in varying ways to the spreading agricultural society. The case of the Lambādis is quite distinct. Here we have the remnants of a caste of carriers whose occupation has vanished with the going of the pack-bullocks. They too have had to adapt themselves in their several ways to the new circumstances and in some cases have done so by turning to (or keeping up) cattle-breeding for the agricultural market. There is a clear suggestion that, although the Lambādis are fairly recent arrivals in the Deccan, they may represent the end of an extremely ancient tradition of pack caravan traders, originating in western India and extending back through the early historic period to the very beginning of organized trade in the remote past. Within this complex historical and social framework there is remarkable uniformity in the actual details of cattle-herding. The hills and forests are resorted to for grazing, and as it often happens that the grazing grounds are remote from the settlements, forest cattle-pens are established in which the cattle are penned at nights. The dung in these pens accumulates until it is of considerable depth. It is then disposed of in a variety of ways, either as fuel for the potters' kilns, or the housewives' fires, or as manure for the fields or the estates. The young cattle are taken as yearlings and sold in the great cattle fairs which occur annually in so many places. They are often taken considerable distances to be sold and again have to travel farther to reach their buyer's home.

CHAPTER 8

PASTORAL ELEMENTS IN FOLK RELIGION

In the previous chapters we considered the possible evidence afforded by place-names and by traditional accounts of the ashmounds; we next considered the modern pastoral groups of the Peninsula to see whether their herding practice afforded any suggestions for interpreting the ashmound evidence. There emerges a fairly definite pattern which we shall employ in our historical reconstruction in the final chapters, but we are still left perplexed by the question of what can have caused the conflagrations. In order to examine more closely this problem it may be useful to review the pastoral elements found in the folk religion of peninsular India.

The religious beliefs and practices of men have almost universally reflected concern for the continued success of their means of subsistence. Among agricultural communities a great part of folk religion is thus concerned with the earth, the crops and the elements. To this end sympathetic magical devices have been evolved which placate and seek to control the spirits and godlings of the earth, the sun, the rain, etc. The spirits of corn and vegetation have next received attention, and so too have domestic animals. Among purely pastoral peoples the flocks and herds have been studied, from a magical point of view, to ensure freedom from disease and the attacks of wild animals and to promote their increase. The bull and the cow have in particular become central figures in folk religion, partly because they play an important role in agricultural as well as pastoral activities. The deification of bulls and cows is widely evidenced. Our present intention is to hint at the ways in which cattle have become involved in Indian folk religion and to see whether it throws any light upon the problem under discussion. It must be clear that the subject which we have raised in the foregoing lines is one which, fully treated, in the Indian context could occupy many volumes, and that here we shall only select those examples which have relevance to our theme.

The role and importance of fire in the life of man may in part explain its manifold involvement in his religious life, but other things must also be invoked to explain the almost universal role of fire in religious practices. For our present ends we must bear in mind that fire and cattle are the two principal constituents of the ashmound practice, and the question must arise of whether there may be

residual evidence of what (for want of a better name) we may call an 'ashmound cult'. Thus we shall be concerned to notice those instances of folk religion in which cattle and fire are connected.

Since Sir James Frazer compiled his monumental *Golden Bough* the inquirer has no farther to go to discover the enormous range in space and time of this sort of agricultural and pastoral element in folk religion. It is necessary to regard them in a dual manner, both in terms of their extent and in terms of their local cultural significance. Viewed from the one standpoint they appear as the representatives of the ancient magico-religious rites which diffused throughout the ancient world together with agriculture and pastoralism. Viewed from the other they have today a role in the life of such limited caste or tribal groups as the Gollas or the Todas, adorned often with complex mythological explanations and justifications of a local character. Many and fascinating are the problems which await study. For example, the occurrence of 'gardens of Adonis' in so many parts of India would make an extensive subject for research, with a local interest no less great than the wider implications of comparison with the Mediterranean world, enhanced by the suggestions of such 'gardens' in the Indus valley civilization.[1] A similar dual perspective must be borne in mind when we discuss cattle rites and seasonal bonfires. Though we cannot do justice to their wider aspects, they have an importance and must ultimately be taken into account. In seeking to use and interpret these fragments from the hotch-potch of Indian folk-religious practice we shall bear in mind the guiding principles set forth by Tylor in his *Primitive Culture*. Far from these beliefs being a mere 'rubbish-heap of miscellaneous folly', properly analysed, with due regard for historical perspective and the controls which our discipline imposes, they are seen to be 'consistent and logical in so high a degree as to begin, as soon as even roughly classified, to display the principles of their formation and development'.[2] They contribute matter which can help to unravel the past history of the ashmound practice, and demonstrate at the same time hitherto unknown and unsuspected links in the continuum of Indian civilization.

It is perhaps not necessary to say more about the method and purpose of what follows; but, since Malinowski, it has become so much a tenet of British anthropology that cultures should be studied as functioning wholes and each trait evaluated as a social phenomenon within that context, that our approach may seem rather naïve. The state of the material we are drawing upon is such that, with a single exception (Rivers's *Todas*), none of the groups has been

[1] W. Koppers, 'Zentralindische Fruchtbarkeitsriten und ihre Beziehungen zur Induskultur', *Geographica helvetica*, II, no. 1 (1946), pp. 165–77.

[2] Tylor, *op. cit.* p. 23.

studied as a whole, let alone a functioning whole. In the majority of instances the reports are of a most unsatisfactory and scrappy kind, often compiled from devious sources of uncertain reliability. However, they are the best published sources available to me at this time, and neither have I personally had an opportunity of making my own observations of these matters, nor if others have done so have they published their accounts. In any case if we were to attempt to evaluate these customs in their full cultural contexts as functioning members, our work would achieve much greater prolixity without better serving our purpose. As far as they go the sources are reliable and we have used them with every caution.

1. TODA RELIGION

In any discussion of the pastoral elements in religion the Todas must occupy a unique place. As Rivers remarks with disarming simplicity when for over four hundred pages he has been enumerating their dairy routine and the main junctures of their lives: the last seventeen chapters of his work have been almost entirely devoted to the religious institutions and ceremonies of the Todas; and yet only at this point does he embark on the attempt to extract the specifically religious elements from the rest. What follows is of considerable interest and brilliantly analyses the nature of Toda religion. Rivers concludes that the ritual has persisted while the beliefs at the bottom of the ritual have largely disappeared. The Todas are an example of a people whose lives are altogether dominated by custom and tradition. It seems that originally they had a religion of a comparatively high order, but that during the long period of their isolation they have more and more overdeveloped the ritual aspect. In other words their religion, as indeed every other part of their culture, is in a state of degeneration. They came to the Nilgiri hills with a religion of a higher order than that they possess at present, and by a long and slow process their gods have become unreal, the supplications of the people for their guidance and assistance have become mechanical, and worship has been transferred from gods, not to sticks and stones, but to (dairy) bells and dairy vessels.[1]

We have stressed Rivers's profound insight into Toda religion because it indicates the caution with which we must use it in our present research. Rivers rightly concludes that in the light of this degenerate, atrophied religion it is useless to seek among the customs of this people evidence of the mode of growth of religious ideas and practices. It is equally improbable that the Toda isolation will have preserved the more generalized and progressive elements of

[1] Rivers, *The Todas* (1906), pp. 452–4. Our whole description of Toda religious elements is based upon this work. Further references will not be given.

the pastoralism which they *may* have possessed two millennia ago, or if preserved they will probably be so hedged in with fossil-growth as to be quite obscured. Thus we must treat the Toda evidence with special caution, learning from it a lesson which strikes at the heart of some of the cherished theories of anthropologists of the 'Tikopian' school: isolation has not preserved the culture of this people uncontaminated by external influences as a record of its ancient character, it has led to its atrophy and decay, and to its essential characters disappearing under a welter of fossil-detail.

We stress this point because it is precisely in the religious parts of Toda life that the process is most strongly seen. In the more basic aspects of their pastoral economy they are perforce following time-honoured traditions, but here geographical and physical factors remain as constants and thus limit the possibilities of change. On the other hand in all the superstructural aspects of Toda life, where these restraints are not present, change has made itself felt in peculiar in-growing ways, resulting in the total forgetting of ancient burial places, or in the peculiar divergence of the Toda language from the more generalized and less isolated Dravidian languages.

Our inquiry is of the place of cattle and fire in religious activities. We have already mentioned many of the quasi-religious activities of the daily round in the several kinds of dairy. There are also several ceremonies of a special kind connected with the Toda buffaloes. Among these are the ceremonies performed after the birth of a buffalo, and the periodic salt-giving ceremonies. Of some interest are the various sacrifices of buffaloes. In the Erkumptthpmi ceremony a fifteen-day-old male calf, without blemish, is killed by striking on the head with a special log and then dismembered and the various parts are hung, or rather impaled, on pointed stakes around a special fire. They are then ceremonially eaten. This ceremony takes place in some secluded spot in a wood, and is perhaps connected with the fertility of the buffaloes. In the sacred *ti* dairies, on three occasions in the year there are similar sacrifices of male calves, once in connection with the autumnal fire ceremony *teutütusthchi* which we shall describe below, once for the coming of the time when the buffaloes of the *ti* migrate for the dry season, and a third in connection with the salt-giving ceremony. Here too the ceremony is performed in a wood or sacred grove. Of a quite different character are the sacrifices of buffaloes at funerals. These are intended to provide the dead with animals in the next world. The Toda funeral, as is well known, is divided into two main ceremonies. The first, which centres around the cremation of the corpse, has become known by what is actually its Badaga name, the fresh or 'green' funeral, the second by its Badaga name, the 'dry' funeral. The rituals of each are quite complex, but we shall mainly consider

the role of buffaloes and fire. In the green funeral the corpse is carried and placed in a funeral hut, generally constructed inside a ring of stones, in certain cases a special dairy house is used for this purpose. At the funeral spot there are generally two other stone circles: the one is a *tu* or buffalo-pen (although, Rivers informs us, this may now be more symbolic than actual), and the third, the *azaram* at the opening of which the ashes are finally buried. On arrival at the place an interesting ceremony is conducted at the mouth of the buffalo pen. Earth is dug by a man of the opposite clan to the dead man and thrown on to the corpse and into the pen. This is also done by members of his family. The next important stage is the catching of the buffalo (or buffaloes) to be sacrificed. These are driven forward by one group of men and rushed upon by another group who finally succeed in grasping a beast by a horn and by the cartilage of the nose, another man grasps the other horn and so on until the beast is brought down. It is now adorned with a sacred bell and butter is applied to the horns, head and back, and it is led to the place where it is killed by a blow on the head delivered with the back of an axe. When it has been felled the corpse is placed by its head and the dead man's hand is put upon the horn of the beast. Other ceremonies follow, culminating in the burning of the body upon a pyre, from the ashes of which a fragment of skull is retained and carefully wrapped away, for the dry ceremony. This second ceremony may take place after several months, and often nowadays it is carried out for several individuals at one time. The relics are brought and placed in the funeral hut. The earth-throwing ceremony is again repeated. So too is the catching and killing of the buffaloes, with only small variations. In the old days the buffaloes were impounded in the pen and at one time were chased around it and set upon with clubs by a group of active young men. Sometimes another, separate buffalo is killed with a blow of a stone, and blood from it is collected and thrown over a female calf which is then set free, as a sort of scapegoat. Then dancing takes place around the funeral hut, but inside the stone circle. Fires are lit both outside and inside the *azaram* circle and the relics and other objects of daily and household use are burnt. The ashes are swept into a small pit dug at the side of the *azaram*.

The funeral ceremonies we have described are of considerable importance. Not only do they involve the sacrifice of buffaloes but, as Rivers observes, they seem to recall a time when the dead were buried in the cattle-pens. Admittedly the evidence for this is slight but it is a possibility which must be borne in mind.

We turn now to consider the place of fire in Toda religion. Although they do not pay any special reverence to fire, certain fires have a religious importance. The obvious example is the sacred dairy fire which is ceremonially kindled whenever a new dairy is visited or an old one reconstructed and once lighted is

not allowed to go out. The ceremonial lighting involves the use of friction. Another undoubtedly sacred aspect of fire is to be found in the dairy lamps, which are sometimes very ancient and are made of iron. In them butter is the fuel. We have already seen the role of fire in the funeral ceremony. Thus there is not any very striking evidence for an association of fire and cattle among the Todas. There is however one ceremony which affords evidence for fires of a different character. This is that known as the *teutütusthchi* ceremony, performed in the month of October. The dairy priests of certain dairies go to the foot of certain hills and there with the aid of fire-sticks light a ceremonial fire. The object of the fire is to make grass and honey plentiful. It may be noted that the Todas believe that the gods live on the tops of hills. As noticed above, this ceremony is one of those at which a calf is sacrificed. An association of fire with buffalo-dung is found in a prayer of the Makars' dairy which tells how the dairy priest made seven heaps of dung, and after he had disobeyed the law that this must not be sold, the buffaloes in anger caused the dung to burst into fire (p. 228). A different sort of tradition which also is suggestive in our context tells of a stone-walled dairy pen which was made by the gods by their depositing pieces of dried dung which were subsequently turned to stone (p. 656).

2. OTHER CATTLE CULTS IN INDIA

Leaving the isolated Toda buffalo cult with its various emanations, we are struck by the uniformity of the pattern which emerges from the many different groups whose cattle rites have been recorded. In the detail there is undoubtedly much variation, but in the broader aspects there is, it appears to us, an almost all-India spread of cattle rites. Thus, we now adopt a different technique for analysing the evidence, and treat the main elements in terms of their occurrence. It may well be that this uniformity reflects no more than cultural and economic uniformity of the pastoral and agricultural elements who for perhaps five millennia, and indeed until the onslaught of western scientific and technological methods of production, successfully held the field in the sub-continent and permitted Mother India to rear that numerous brood upon which even Hero-dotus remarked. For, whatever may have been the various economic stages, the developing relations of production, which occurred during this time, the basic pattern was one of the spread of the Neolithic–Chalcolithic technological achievements (later augmented by iron no doubt) throughout the regions of India, and this pattern once established died hard. With it, we infer, diffused those agricultural and pastoral cults which—in their simplest forms—were mere

sympathetic magic, but which with the evolution of complex religious structures and beliefs at many levels fell into place as elements of folk religion.

We do not wish to imply that the religious beliefs of the several pastoral and agricultural groups we have been discussing are confined to these elements. As is well known there are religious beliefs at several different levels, and the Gollas or Badagas exhibit a combination of such beliefs, as do nearly all the lower castes of southern India. At simplest there is the village or tribal level with its multiplicity of mother goddesses, Ellammas, Peddammas, etc., who have also their counterparts in the *devatās* of central and northern India; and there is the broader sectarian religion, having first of all a regional emphasis, as with the Lingāyats or Śrī-Vaishnavas, and finally an almost universal spread as with the Śaivites and Vaishnavites. Unhappily, too little is available about the beliefs of the Gollas or even the Banjāras for any sort of consistent study, but from what is recorded something clearly emerges: in almost all the pastoral castes there is a traditional association with Krishna. For example, the Gollas claim that in origin they are Kshatriyas, the descendants of King Yayāti, who figures in the *Mahābhārata*, and that they lived anciently in the vicinity of Mathurā, where as a result of the amorous exploits of Śrī Krishna the cowherd they can claim to be of the Yādava clan. They later moved southwards into the Deccan.[1] Even the Kādu Gollas believe that they migrated into the Deccan from the vicinity of Delhi, 'to avoid the Muslim persecutions', an interesting example of the way in which more recent events have become identified with older. There are other castes too who worship Krishna and even connect themselves with him. The question arises, have these traditions any historical significance? This certainly deserves investigation, but it is beyond our present scope. Iyer classes them as Vaishnavaite, but according to Thurston both Vaishnavite and Śaivite Gollas are found. The Gollas also have a tribal deity, Junjappa, described as a glorified cowherd and a later incarnation of Śrī Krishna. In his name a festival is held every two or three years in Hagalvadi, and he has a sacred bull known as Pattada Basava, king bull, whose duty includes the carrying of a box representing the deity. The Golla version of Makara Sankrānti will be described below. Thurston records how in worshipping Ankamma, an image of a bull called *bolli-āvu* (bull idol) is placed with other precious objects in a pot. It thus appears that the Vaishnavite elements in Golla religion are rather of a superficial character, while elements of a folk nature predominate.

One of the most widespread features of cattle-worship is the way in which the beasts are adorned or decorated. At simplest this may involve no more than the painting of the body or horns. Such painting is still to be found almost through-

[1] Ananthakrishna Iyer, *Mysore Tribes and Castes* (1930), III, pp. 198–9.

out the sub-continent, particularly upon festival days such as Holī, Govardhana, Gopāṣṭamī, etc. The body is adorned with stripes and patterns in red pigment, sometimes with the marks of the hand with outstretched fingers (a common form of mark against the evil eye), and even with such phrases as 'Rām, Rām' written in the local script. This sort of painting certainly occurs outside India. In particular among the cattle-keeping tribes of East Africa, such as the Masai, it is found.[1] The horns are also painted, sometimes in monochrome red, at others in polychrome bands. There is every suggestion that such painting of cattle is very ancient. Among the terra-cotta figurines of cattle of Chalcolithic age from Kulli painting is not uncommon: the clear suggestion is that it imitates the painting of real animals. Although the great majority of representations of cattle from the Indus valley sites are unpainted, there too an occasional painted specimen occurs. Other decorative features are strings of beads, of terra-cotta or even glazed, around the neck. It is tempting to see evidence of such beads in the many finds of large terra-cotta beads from excavations, both of prehistoric and early historic sites. Sometimes, too, there are collars of leather, hung with rows of small bells of brass. Such collars bear a striking resemblance to the collars depicted upon some Harappan seals. Sometimes there are also garlands of flowers hung around the necks of cattle. The horns are further embellished with the addition of brass tips, variously decorated, and these are frequently the bases for coloured tassels and pompons. Again, sometimes less durable decorations are in evidence, strings of pompons, leaves, etc., hung between the horns. In some rare and special beasts coloured cloths are hung over the back: these are perhaps also ancient and recall the adornments of some of the cattle of the Indus valley seals. Another curious form of decoration of the horns, reported to me from among the Tamils of Ceylon, is the hanging of a great lump of bread dough between the horns, and the garlanding of cattle with strings of pierced *waḍai*, little ring-shaped fritters of gram flour and spices, among the Tamils on the Māṭṭu Pongal. Occasionally again there are reports of wooden torches fixed between the horns, recalling rock-paintings of the Deccan Neolithic and painted bulls of Cemetery H at Harappa. Some of these more specific features we shall meet again in the descriptions of festivals below. Finally, among the general adorning of cows which accompanies their worship, we may notice the ritual bathings and anointings with oil which occur on such days as Gopāṣṭamī.

The decoration of cattle is only one aspect of their worship. Other rites include the lighting of lamps in the cowsheds, and the offering of sweets, etc. There are also the several kinds of activity in which cattle play a leading role,

[1] Cf. M. Merker, *Die Masai* (Berlin, 1904).

and which all more or less are elements of folk religion: bullock-baiting, bullock-racing, processions, etc. These we shall consider in more detail below. First, however, we wish to take note of another facet of the matter: the sacrifice of cattle. In Vedic and *Brāhmaṇa* texts there are many indications of cow and bull sacrifices, in honour of various deities. Sometimes the animals chosen were conveniently deformed or barren (a trait which is still met with among the Todas, but which has probably a practical rather than historical significance). It is evident that at that time some sections of the population ate the flesh of cattle, and that Brahmans were among them. It has been held that the sacrifice of cattle, and perhaps also the consumption of beef, became disapproved under the influence of Buddhism, and finally disappeared. At least in the south where sacrifices of goats and sheep are very widespread, and where even buffaloes are still sacrificed by the lower castes, Madigas, Malas, etc. (as among the Todas), the sacrifice of a cow or bull is not mentioned. Only among certain jungle tribes, who may be considered as having remained outside the pale of both Buddhism and Hinduism, have cattle continued to be slaughtered. Such sacrifices occur mainly in connection with funeral ceremonies, where presumably they have a similar significance to those of the Todas. Thus they are reported among the Gonds, the Khonds and the Muria. A different version of buffalo sacrifice, which has certain features in common with the above, is recorded by Thurston among the pastoral Udaiyans of southern Arcot district. Here if a man recovers after a vow, he sacrifices seven of his best animals. Among these various rites the practice recurs of tying the tail of the animal to a post or pole. Altogether there are features which recall the funeral sacrifices and posts of the Nagas of Assam.

The sacred role assigned to cattle sometimes takes peculiar forms. For example, among the Banjāras a bullock is chosen as *Hatādiya*, and decorated with red streamers, brass chains and rings, strings of cowry-shell beads and silken tassels: he is never made to carry a burden, but goes in advance of the main caravan; receives the vows of those who are in trouble, sickness, etc. This bullock is dedicated to the god *Bāljī*.[1] Another curious instance is recorded by Thurston for the sacred herd of the Kappiliyans of Madura and Tinnevelly districts. These people are Kannada-speaking and their tradition is that they came down from across the Tungabhadrā on account of Muslim persecutions. They have thus not been resident in their present locale for many centuries. Among them one group, living in the Kambam valley of Madura district, have a sacred herd (*devaru āvu*). They recall that they migrated to this spot in search of new grazing grounds. The cows of the herd are never milked and the calves are used

[1] W. Crooke, *Popular Religion and Folklore of Northern India* (1896), pp. 235–6.

only for breeding purposes. When one of the herd dies it is buried. The herd is recruited from among calves dedicated by members of other castes. They are branded on the legs and buttocks and their ears are notched. A bull is selected by a curious ceremony in which several are released and that one which first eats from a bundle of sugar-cane is regarded as chosen. It is daubed with turmeric, decorated with flowers and provided with a special attendant. This bull is also known as *pattada āvu*, the king bull, and is regarded as the king of the sacred herd. Various stories are told of the special powers of the king bulls. There is an annual migration of the sacred herd to the hills, doubtless in search of fodder.

Bull-baiting and racing

That bull-baiting, racing and fighting have still something of a folk religious character, although they are in themselves so easily divorced from religious activity, can be seen from an anecdote related to me by the Catholic priest in charge of the mission station in Mudgal in 1952. This young Scotsman told how when he observed the popularity of bullock-racing in the neighbourhood, he instituted his own Christian version thereof, celebrated upon the day of the patron saint of agriculture. The result, he said, was quite as popular as its more ancient forerunners. This story shows how quickly and easily an institution (in this case bullock-racing) can become associated with an entirely new ideological superstructure. We cannot doubt that each and every detail of the races would be taken over from the existing custom and that the specifically Christian elements would be grafted on to them. In exactly the same way in Europe has Christianity taken up the popular festivals of folk religion, making seasonal bonfires into the symbols of saints; and even such central Christian feasts as Christmas and Easter have become mixed with older seasonal fertility cults, sacred trees, eggs, etc. In England in particular the old Hallow-e'en fires had a strange fate: first becoming associated with the feasts of All Souls and All Hallows and then since 1605 transferred—perhaps happily for the Christian conscience--to a secular event—the Gunpowder Plot.

We have already seen among the Todas the elements of buffalo-baiting, when in the funeral ceremonies the beasts are pounded and then chased around the pound, and again when the beast for sacrifice is selected from the driven herd by young men chasing it and hanging on to its horns. The occurrence of comparable forms of baiting and fighting in the ancient Mediterranean has long been known, and we shall not discuss it here. In modern India it is probable that baiting of bulls and bullocks is much more widespread than it at first appears, but very little has been published concerning these sports. My first introduction

was in 1945 in Comilla in East Bengal, now East Pakistan. During the rainy season, probably in July, I saw a large crowd gathered in a broad open space in one quarter of the town. In the centre groups of men were bringing forward their own beasts, whether bulls or bullocks I did not note but more probably the latter, and confronting them in pairs. Sometimes they refused to participate, but at others they charged each other several times. Several of my Bengali friends have confirmed these observations. It seems that at various seasons, particularly in the rainy season and during the winter, fights are arranged. The participants are both Hindu and Muslim, but there are features which indicate the pre-Muslim nature of the practice. In one account the animals are said to be essentially bulls, not bullocks, they are decorated with paint, including *tilak* marks on the forehead, handkerchiefs are tied to the horns, which have been previously sharpened. Sometimes little flags are used to adorn the beasts. The fights are carried out for prizes and betting takes place. In another account I am told that the beasts are usually bullocks, and that the rainy season is selected, 'at the time of the Manasā *pūjā*'. The decorations include little bells and handkerchiefs are tied to the horns of the victors. The variations in these descriptions may partly arise from the casual nature of these three sources, partly from local and regional variations. A somewhat similar form of bull-baiting is described by Thurston among the Bants, an agricultural caste of the Kanara districts, where there is, moreover, a clear indication that the festival is associated with fertility; and again among the Barika of Bellary similar bull-fighting is also recorded. Yet another report of bull-fights in Andhra Pradesh comes from Dr N. Isaac of Guntūr Christian College on the occasion of Māṭṭu Pongal, and another from Sri Lakshmi Narayan Dube of Sagar University among the pastoral groups of Khandesh upon the Polā festival.[1] But the best-recorded instance of bull-baiting comes from the Maravans of Madura district. This caste which bears a name known from the Sangam literature as that of a fierce and warlike tribe has long been famous for its bull-baiting ceremony, known as *jalli-kaṭṭu*. This too takes place on the day of Māṭṭu Pongal, the third day of the Pongal ceremony which we shall be considering below. 'On a certain day in the year large crowds of people, chiefly males, assemble together in the morning in an extensive open space....and many are seen leading plough bullocks.' The owners brag about their beasts and challenge all and any to catch and hold them. A beast is selected and a cloth made fast around its horns to be the prize of his captor. He is then led out into the middle of the arena by his owner and there left by himself surrounded by a throng of shouting and excited strangers. The beast usually lowers his head at once and charges wildly

[1] My thanks are due both to these and to several other kind informants.

into the midst of the crowd, who then dodge and feint until the beast either breaks out of the ring or has the cloth seized from its horns. It appears that in some villages the cattle are specially bred for their fitness to participate in these sports. The Kallans of Madura and Tinnevelly districts also take part in these or similar ceremonies.[1] The antiquity of this custom is attested by a reference in the *Kalittogai*, a late Tamil Sangam text. Here the suggestion of fertility is again present, the feat being regarded as a test for the virility of the youths who take part, and influencing the selection of brides.[2]

The *Kalittogai* dates from the end of the Sangam period, probably the fourth–sixth centuries A.D. In that part of the text which deals with the pastoral tract (the Mullaikkali) there is an elaborate description of the custom known as *ēṛutaḻuvudal*, embracing of the bull. An area is enclosed by strong fences and palisades. The Āyar girls mount on a high platform on one side to witness the sports. Then the finest bulls are driven into the enclosure, 'the black bull with white legs which appears like a stream flowing down the side of a gem-filled hill, had reached the limit of beauty, the speckled bull with beautiful white spots on brown skin, looking like the red cloudy evening sky shining with bright stars, and the brown bull whose horns are bent like the young moon', and the young herdsmen leap into the enclosure after them. They dance before the beasts, leap on to their rough backs and embrace them like garlands, and dance upon their backs. One embraces a bull, 'crushing out its strength' and clasping it around the neck; another 'lies on the side of the bull'; while another catches a charging bull by the ears and thus quells it, as Māyōn when he caught the horse with the beautiful mane sent by his enemies, and tore open its mouth and beat it with his fist. For all these exploits the youths are garlanded with various flowers and the performance is accompanied by drumming. Those who are victorious in the bull-baiting then repair to a nearby grove to dance with their brides elect and prepare for marriage. Another textual reference which in this context is not without interest comes from the *Bhāgavata Purāṇa*. Here it is related that the youthful Krishna won for wife the daughter of the King of the Kosalas by successfully subduing seven ferocious oxen. Although the text in question is of only medieval origin, the association of Krishna with cattle sports and marriage choice is highly suggestive.[3]

Thus such cattle sports are not only widespread in modern India, but they are also sufficiently ancient. There is a very clear indication that bull sports were also in vogue in the cities of the Indus civilization, for as Fabri pointed out there

[1] Thurston, *loc. cit.* 'Maravan', 'Kallan'.

[2] Kanakasabhai, *The Tamils Eighteen Hundred Years Ago*, pp. 57 ff.; Natesan Sastri, *Hindu Feasts, Fasts and Ceremonies*, pp. 20 ff.; Srinivas Iyengar, *History of the Tamils*, pp. 578–81.

[3] *Bhāgavata Purāṇa*, 10.58, 32–55.

are several Harappan seals depicting such things: one shows a man leaping over a bull with lowered horns before what is evidently a sacred tree and a pillar crowned with a 'horned' or *triśūla*-like object reminiscent of the head-dress of certain Harappan deities; a second seal shows a man thrusting a spear into a buffalo; and a third a remarkable, if stylized, group of figures leaping over a buffalo. In this instance one at least of the figures appears to be a female, as is witnessed by her long flowing plait.[1] These examples are strikingly close comparisons to Cretan depictions of the same sport, where too the plaited heads of the girls who took part in the bull-leaping are clearly seen.

Another folk-religious element which is found often associated with bull-baiting is racing. The centre of the popularity of this sport seems to be in the western Deccan, but remarkably little has been published concerning it. Throughout this area the speed of the trotting bullocks which are its speciality is a matter of keen concern, and one in which such noted figures as Tipu Sultan is reported to have taken a practical interest. In Kolhapur in Mahārāshtra, races and processions of bulls, sometimes with their carts, take place; so too in Khandesh. Buffalo-racing is also a common occurrence. Among the Bants of Kanara district Thurston gives a good account of the sport, the beasts are yoked in pairs and made to drag a heavy plank through the mire of the rice fields. The occasion is associated with the singing of indecent songs and with suggestive dances and takes place at the time when the rice seedlings are transplanted: to ensure their fertility.[2] Among the Paraiyans of Cochin buffalo-racing is also found, and indeed it forms part of the national festival of Malabar.[3] There are also numerous recorded instances in which cattle take part in processions of various kinds at various festivals throughout India. Such processions we shall encounter in several of the festivals to be described below, and we need not say more here.

Cattle fairs

To conclude our survey on the various ways in which cattle are made to participate in folk religious festivals we consider an aspect which is of vital importance for the whole question of the dissemination of breeds, maintenance of breeds and organization of the pastoral economy of India: this is the great cattle fairs which are held at seasons throughout the country. Their importance may be gauged by the distances which breeders and buyers alike travel to attend

[1] C. L. Fabri, 'The Cretan bull-grappling sport and the bull-sacrifice and the Indus valley civilization', *ARASI* (1935–6), pp. 93–100; and D. H. Gordon, *The Prehistoric Background to Indian Culture* (Bombay, 1960), pl. VIII, nos. *d*, *e*, and *j*.

[2] Thurston, *op. cit.* 'Bants'.

[3] Ananthakrishna Iyer, *Tribes and Castes of Cochin*, I, p. 84.

them and by the numbers of cattle which take part. I have found very little written description of such fairs, and as they present worthy material for a monograph in themselves I shall certainly not attempt to do them justice. I shall content myself with random notes of my own observations of one or two examples, so as to show the religious elements they contain.

In nearly every case I have come across, the great cattle fairs are held at the time of one of the major festivals, generally of one in which cattle play an important role. The fair at Amareshwar, some 8 miles north-east of Lingsugūr, in the Raichūr district, is held at a wild spot in the jungle, about 2 miles from the ancient road which runs northwards from Vijayanagar, via Mudgal and Lingsugūr, to Shāhpur and Sorapur, crossing the Krishnā at Tathni. The site is little more than 5 miles west of the Gaudūr ashmound. There is a deep natural cleft in the rocks, from which emerges a perennial spring which flows out through the *maṇḍapa* of the main shrine of Amareshwar and falls into a capacious *bauṛī*, or lined open well, immediately in front of the temple. In a subsidiary shrine I saw a Vishnu icon of late Chalukyan date. Above the cleft there is a fairly level stretch of ground on which a roadway has been cleared and at the end there is a house for the temple *ratham*, chariot, which is taken out for processional journeys at the feast. Along either side of the road are rough stone foundations upon which booths are erected at the fairs. What is probably the main source for watering the cattle is a large surface drainage tank with an earth bank in the shallow valley to the south of the site. From a neighbouring hillock, with a small shrine on its crest there is a fine view across open jungle down into the Krishnā valley, several miles to the north-west. Viewed outside fair times the whole place is silent and anonymous. Apart from a mass of broken glass bangles in the path of the chariot, and small numbers of modern sherds and hearths on the surrounding land, there is little sign that this place is remarkable. However, there is a very different scene on the full moon of the month of Phalgun, Holī. I have not witnessed the fair myself, but in 1952 while suffering from malaria in the Dak bungalow at Lingsugūr I watched as for some two days the road northwards was crowded with excited families with their cattle, carts and camping things, as they completed the journey. I was told that many came from more than 50 miles away. On the following day, when I had hoped to visit the fair, my health prevented me. In 1958 I was again prevented, as the fair was cancelled by the authorities in view of the epidemics of smallpox and cholera.

The pattern is thus that the fairs are often held at the time of some festival, usually one associated with cattle, at a spot which has some religious associations, and usually having a number of shrines and temples. Whether races and similar things also occur at these times I do not know. The fairs give the impression of

being established by hoary tradition, but in the case of Amareshwar there is no archaeological evidence of great antiquity in spite of the proximity of an ash-mound. The organization of the trade is probably in the hands of Banjāras and other such cattle-breeding castes, who bring their herds of bullocks and cattle to the fair-grounds at the appointed times. Clearly there would be considerable cultural historical interest in a more minute investigation of these ancient cattle fairs.

Dīvālī

We must now turn our attention to the extent and nature of some of the great festivals in which fire and cattle are involved. Principally there are three such festivals, the Holī and Dīvālī, particularly of the north and central India, and the Makara Sankrānti or Pongal of the south. In considering these festivals we must be careful to keep in mind the distinction between what is said and written in the texts concerning them and what is actually done.[1] For our purpose the latter evidence, the actual acts of surviving folk religion, are more significant than the former, although this too may be significant in indicating the age of parts of the custom. This dichotomy is nowhere clearer than in the case of Dīvālī. From the broad comparative point of view the festival is typical of the autumnal festivals of the Mediterranean: Frazer long ago pointed to the probability that the Christian feasts of All Souls and All Saints were a continuation of an old pre-Christian autumnal festival of the dead, in which the worship of fire, the concept of a new year, of the walking abroad of ghosts and spirits, and even the prophylaxis of cattle by fire, can be traced. He likewise indicated the way in which other ancient seasonal festivals had been used as the foundation for other great dates of the Christian year. Thus in seeking for the heart of such festivals we must penetrate below the Christian stratum to the older core. The coincidence of features of Dīvālī and the old Mediterranean autumnal festival are in themselves remarkable but here we have not the space to explore them. We must however be prepared to look below the surface gloss of texts no more than 1500 years old, written by learned Brāhmans, to the older heart of Dīvālī. In respect of the textual account of Dīvālī we shall follow the scholarly compilation of Kane, whose *History of the Dharmaśāstra* is such a compendium of Hindu learning.[2] The festival occupies no less than five days, of which three can properly be called Dīvālī. The name is originally *Dipāvalī*, 'row of lamps'. The festival starts on the 13th day of the dark half of the month of Aśvina and, according to Kane, lights and illuminations are found on almost all the five days. However,

[1] 'What a people *does* in relation to its gods must always be one clue, and perhaps the safest, to what it thinks', Jane Harrison, *Prolegomena to the Study of Greek Religion* (1903), p. vii.

[2] P. V. Kane, *History of the Dharmaśāstra* (Poona, 1930), V, pp. 194 ff.

each has a separate mythological significance. The first is associated with the worship of Lakshmī; the second day, 14th of Aśvina dark half, is known as Narakacaturdaśī, the 14th day of Naraka, Hell, and on it Yama the god of death was to be propitiated for fear of hell. Later the legend of Krishna's killing of Narakāsura became associated with this day, and the older worship of Yama, mentioned in the *purānic* accounts, is now largely forgotten. On this day also lamps are lighted (according to the *Bhaviṣyottara purāṇa*) in many places including shrines, roads, mounds with sacred trees, etc., and some texts mention that on this and the succeeding evening men with firebrands in their hands should show the way to the *pitṛ* (ancestors). This rite is immediately reminiscent of part of the All Souls' Day beliefs in England where torches were carried around the village lands. The third day is *amāvāsya*, new moon, and it is perhaps the most important of the whole festival. It is devoted to the worship of Lakshmī, in whose honour lamps are put before houses, shrines, squares, trees, cow-pens and caves. The houses have been newly white-washed and floors plastered with cow-dung in honour of this event. In honour of Lakshmī (the personification of fortune and wealth) the merchants lay out their account books, and write up auspicious words, *śubh*, *lābh*, etc. This day is essentially one for the city, and the worship of wealth. It marks also in Gujarat the last day of the year, according to the Vikrama era. The next day, the first of Kārtika bright half, corresponds to the first day of the Vikrama year, and is one of the most auspicious days in the year. It is associated with the victory of Vishnu over King Bali, a legendary event already current in the time of Patanjali. It is also traditionally a day of dicing and gambling, in record of the legend that on this day Śiva was defeated at dice by Pārvatī, and this aspect no doubt recalls once again the worship of Lakshmī in its various forms on earlier days. There should also be lamps lighted. An important feature of this day is the worship of cattle and their decoration. This, too, is referred to in sufficiently ancient texts. It is associated with the legend of Krishna's lifting of mount Govardhana, and in its honour models of the mountain, and cattle, are made from cow-dung. The cow-worship takes place in the morning and on the afternoon there is prescribed by the texts a ceremony known as the tying of *Mārgapāli*, protectress of the road. A rope of grass is tied to a tall pole and a tree, and a procession of men and animals passes beneath it. A tug of war is also prescribed in some texts. The fifth and last day of Dīvālī is known as Bhrātṛdvitīya or Yamadvitīya. Its legendary association with Yama is scarcely of concern in our context, nor is its central and beautiful theme of the honouring of sisters and brothers. For as Kane observes, the ceremony is really not a part of Dīvālī but an appendix tacked on to it to increase its span by one day.

As Crooke remarks, a great part of Dīvālī is essentially a city and merchants' festival. None the less the feast is observed throughout north and central India and well into the south and certain parts are widespread in the villages. We shall consider briefly some of the variant forms of activity recorded by ethnologists in Dīvālī, particularly those which seem to have connection with our theme. The days on which such activities have been recorded are mainly the Amāvāsya, or New-moon day, and the following Govardhana. The former is mainly associated with lamps and light and the latter with cow-worship. This part of the festival has particular importance for such pastoral castes as the Ahirs. The cattle enjoy a holiday and are decorated. Lamps are frequently placed in the cowsheds. Among the Bants the god Bālindra is worshipped in the cowsheds. The Govardhana mountain is modelled in dung, often as a flat cone, and sometimes too models of cattle and human beings are made in the same material.[1] Among the Gwalas of Bihar Buchanan recorded that a mass of cow-dung was modelled into a human form. Among the Hatkars of C.P. these models were later trampled underfoot by the cattle, but this part of the ceremony relates rather to the afternoon and the *Mārgapāli* complex. At this time the cattle are driven out in processions, sometimes led by the fiercest bull and heifer, while small boys try to snatch the garlands from their heads or horns, as among the Bants. Again, among the Gonds and Ahirs of Mandla the cattle are driven out to an open place outside the village and there the people shout and pelt them with mud, so that they scatter here and there. An arrow-like figure is modelled in cow-dung called *Gothen deo*, the cattle god.[2] The Ahirs are recorded as decorating the horns with branches and chasing the herd to the grazing grounds. Among the Mahadev Kolis of Bombay, a largely cattle-keeping scheduled caste, the cattle are driven over a small bonfire and made to trample over a cow-dung cone described as a model of Bali.[3] A second theme is that of the trampling of the Govardhana, which among the Bhils is recorded as the driving of cattle over a prostrate man. Perhaps this is a reminiscence of human sacrifice, for elsewhere, for example among the Banjāras, it is recorded that a goat or cock was buried up to the head in the ground and cattle driven over it. If the creature was trampled to death the outcome was considered to be auspicious for the cattle. This aspect is present in the Gayadanr festival held in parts of Bihar and Orissa upon this day. Here the cattle are goaded forth to chase and gore a 'puny pig'. The whole Sohorai festival of the Oraons reflects the Bihar version, with the lighting of lamps and decoration of cattle, and the cattle running in the afternoon. A new detail is the pouring of rice beer over the hoofs of the cattle.

[1] In this context the name Govardhana, increaser of cows, is very suggestive.
[2] S. Fuchs, *The Gond and Bhumia of Eastern Mandla* (Bombay, 1960), pp. 482–6.
[3] G. S. Ghurye, *The Mahadev Kolis* (Bombay, 1957), pp. 199–200.

Another feature which I observed at many places in Bihar while travelling on this day was that groups of men formed into circles within which contestants indulged in bouts with their *lāṭhis*, or staffs. Among the Ahirs stick-dances are in vogue. The actual *Mārgapāli* ceremony I have not seen clearly referred to on this occasion, but its elements occur at other dates, and we shall encounter one of them below. The driving of cattle herds out from the cow-pens to the grazing grounds in procession, across some sacrificial objects, be they man, beast or cow-dung cone, must occupy a similar prophylactic place to the 'protectress of the road'.[1]

From the textual and ethnographic accounts of what is done at Dīvālī emerges a fairly coherent picture. The specifically 'city' aspects of the festival involve the worship of Lakshmī in various guises, including no doubt the lighting of lamp-rows, and their basic purpose seems to be concerned with successful business operations and wealth. Associated with this aspect are several separate legends of Narakāsura, Rājā Bali's overthrow by Vishnu, etc. The wider village aspect is one of lamp-lighting and cattle-worship, associated with rural sports of various kinds. Its significance seems to be closely akin to the old autumnal festivals of Europe and the ancient Middle East, having a meaning in terms of the agricultural year, and a general connection with cattle prophylaxis and fertility.[2]

Holī

The Holī festival is attested in Indian literature from very ancient times. It survives as one of the most widespread of North Indian festivals and it certainly extends into the Deccan and the south, although less universally celebrated than in the north. In Bengal also it is less common. In considering the history of the festival we shall rely once again upon Kane's scholarly account. The name *Holī* or *Holikā* appears originally (in *Jaimini*, the *Pūrvamīmānsa-sūtra*, and *Kāma-sūtra*) in the form *Holākā*. This raises an interesting problem of etymology, since there survives in the Madhya Pradesh, at a different season, a festival of *Polā*, and it is quite possible that this word also derives from the older form *Holākā*, by the substitution of Sanskrit (and also Kannada) *h* by Telegu and Tamil *p*. The possibility is enhanced by the form *Polikā pūrṇimā* occurring in Telegu for the full moon of the month of Phalguna. This of course is a Dravidian version of *Holikā pūrṇimā*. That the older form *Holākā* should become *Holā*

[1] The various references included in this paragraph are drawn from several sources, among them Crooke's *Folk-lore of Northern India*, and 'Bull-baiting, bull-racing, bull-fighting', in *Folklore* (1917); Thurston, *Castes and Tribes of Madras*; Mitra, 'Gayadanr festival', *Ind. Ant.* vols. LX and LXI, pp. 187–90 and 1 ff., 231 ff. Also Fuchs, *Gond and Bhumia of Eastern Mandla* (Bombay, 1960), p. 482; and Kane, *History of Dharmaśāstra*, vol. V.

[2] It may be worth comparing our brief interpretation of Dīvālī with the much more thorough study made by J. J. Meyer in part 2 of his *Trilogie, Altindischer Mächte und Feste der Vegetation* (Leipzig, 1937). In this account the story of Rājā Bali's dominion and of Vishṇu's final victory recurs as a main theme.

and so *Polā*, is thus entirely plausible. Holī is essentially a spring festival to which the several parts all contribute. The different legends which have later become attached to it appear to have little or no significance. The earliest account, that of Jaimini, already mentions regional variations and interesting details such as the bullock-races of the northerners and the tree-worship of the southerners.[1] The essential parts of the ceremony, which are already indicated in the *Kāmasūtra*'s commentary *Jayamangala*, are the spring festival with attendant excesses and the throwing of coloured water. Hemādri gives an interesting account of the ceremony. Here the statement is that on the 15th day of Phalguna the cold vanishes and summer starts. Boys collect firewood and grass and make the fire, light it, and clapping their hands thrice dance around it, singing obscene songs, etc. On the next day people salute the ashes and worship Kāmadeva, the love god. There are numerous modern accounts of Holī and in general they follow a surprisingly uniform pattern. It is reported from Mathurā and from Mahārāshtra that the festival is regarded as particularly important for cowherds, and in several cases it is stated that they preserve large quantities of cow-dung, otherwise a saleable commodity, with which to make the fire. Elsewhere the fire is usually made of mixed fuel—wood, brushwood, grass and cow-dung. It is often snatched or stolen by groups of small boys. Among the Banjāras even in the extreme south Holī is still an important festival. After the fire the coloured water and powder are important. Kane records many instances both at this and other festivals of a Saturnalian nature, where the participants smear each other with or throw at each other, mud. This part of the Holī games is linked with the *gālī* or hurling of abuse, the singing of sexually suggestive songs, etc.[2] Another detail noticed by Crooke is the jumping through or over the fire, as a means of prophylaxis. The ashes are not only worshipped, but believed to have some prophylactic qualities and they are carefully gathered. Both the ashes and the bonfire are on occasions referred to by the suggestive term *vibhūti* (i.e. *būdi*). Indeed in Kannada the name for the full moon of Phalguna is *Būdi Hunnive* (*pūrṇimā*), ash full moon day, a suggestive title, in view of the other uses of *būdi* which we have already encountered. At Gwalior it is noticed that large heaps of cow-dung are burnt, while the Marwaris erect ithyphallic images of Nathurām before the fire. Among the Gonds and Ahirs of Mandla the cattle are driven to the ashes of the bonfire and gathered around it: they are then led back to the grazing grounds.[3]

[1] *Jai.* 13. 15–23, quoted by Kane, *op. cit.* III, p. 851.

[2] J. J. Meyer treats the Holī festival with as much thoroughness as Dīvālī in his *Trilogie, Altindischer Mächte und Feste der Vegetation* (Leipzig, 1937), pt. 1, Kāma, pp. 1–238. We have not thought it necessary to discuss many of the details he raises, nor to go into the legendary mythological significance as he does.

[3] Fuchs, *The Gond and Bhumia of Eastern Mandla* (1960), pp. 455–7.

The seasonal nature of Holī as a spring festival, with fire and coloured water, is seen as essentially a fertility rite. There is only a slight connection with cow-dung and cattle, and this mainly among the pastoral groups. We turn now for a moment to consider the Polā festival. Unfortunately the available descriptions of this festival are few and incomplete. It occurs during the rainy season in parts of Madhya Pradesh, on the New-moon day of the month of Bhadra. I am informed that one common feature is the erection of the *Indradhvaja*, or Indra's banner, a sort of maypole made of sugar-cane. Traditionally this latter festival takes place in the month of Bhadrapāda, and there is every probability that it is historically cognate with Polā. The ceremony described for the Kunbi cultivators is of quite a different nature. It consists of a cattle procession, headed by an old bullock to whose horns is fixed a *makhar*, a wooden form to which torches are tied. Meanwhile a rope of mango leaves has been made and tied between two posts, and the leading bullock, with lighted torches is made to charge this rope and breaking it stampede back to the village followed by other cattle. This custom is supposed to ensure fertility and freedom from disease among the cattle in the coming year.[1] It is clearly cognate to the *Mārgapāli* ceremony we described for Dīvālī, but the lighted torches attached to the horns are of great interest. They recall the representations of bulls with—apparently—lighted torches attached to their horns on some of the pots from Cemetery H at Harappa. Another example of a procession of cattle reminiscent of the *Mārgapāli* rite was recorded by Fawcett in Bellary district. Here at a festival in honour of a village mother-goddess a rope of nim and mango leaves was hung across the path, about 3 ft. above the ground. The cattle were driven up to it and if a white bullock first touched the rope it was considered to be auspicious.[2] A further notice of the Polā ceremony comes from the Mahadev Kolis, a pastoral group of Bombay among whom cattle play an important role. For the festival the cattle are decorated and 'whisks' are attached to their horns.[3] Another scrap of information which is obviously relevant is that among the Muria of Bastar little terra-cotta bullocks are set upon the housetops at this time to bring good luck.[4]

But my fullest information comes from a manuscript note kindly supplied by Sri Lakshmi Narayan Dube of Sagar University. This authority notes that in the towns and villages terra-cotta models of cattle are made as surrogates of the actual cattle for worship. The festival is in Hoshangabad district particularly linked with Śiva and Śaktī. The cattle are decorated and often there are races for bullocks and buffaloes. The herds are led in procession out from the village

[1] Crooke, *Folklore*, XXVIII (1917), p. 158. See also Meyer's treatment of Polā as an extension of the Mārgapāli complex (*Trilogie*, pt. 2, Die Bali Feste, pp. 165 ff.).
[2] F. Fawcett, *JASBom*, XI (1890), p. 266. [3] Ghurye, *op. cit.*
[4] V. Elwin, *The Muria and their Ghotul* (Bombay, 1947), pl. XXXVII.

to an open ground where various rites are performed. Bullocks and buffaloes there engage in fights, considered to be an entertainment to Janārdana. The beasts are often specially raised by their owners with these contests in view. Among the Banjāras the festival is of particular importance as it marks the end of their settled period during the rains and the reopening of their nomadic existence.

Pongal

The third of the great festivals which we are to consider is the Pongal of the south. This feast falls on and around the Makara Sankrānti. The *Sankrānti* is the apparent precession of the sun from the *rāśi* or house of Dhanus (the bow, corresponding to the western Zodiacal house of Sagittarius, the archer) into the house of Makara (the Makara, a mythical beast corresponding to the western house of Capricorn), and this event takes place in mid-January. Traditionally this corresponds to the commencement of the northern passage of the sun (Uttarāyaṇa or udagayaṇa), but through the precession of the equinoxes this event now takes place some 23 days before the Sankrānti. Because of this and for other reasons, including perhaps the slightness of textual references to the Makara Sankrānti in Sanskrit works and the superficially social character of the festival, Kane does not regard the celebrations as very old—probably not older than the opening of the Christian era.[1] However, in the south the Pongal festival is of much profounder significance, and—we would think—may well be more ancient. Further, as we shall show, it preserves within itself all the elements of an ancient agricultural and pastoral seasonal festival, and these may assuredly be older. It was indeed recognized as such by Meyer, for in the third part of his *Trilogie*, which is devoted to Indra and particularly to the Indra tree and banner festivals, a section is devoted to Pongal as an Indra festival associated with fertility.[2] But neither Meyer nor Kane stress the great social significance of the Pongal festival in South India. From our point of view, it ranks beside Dīvālī, with which it shares many features, and may even have come to occupy the position originally held by that festival (or rather by a common ancestor) in the north.

The Pongal festival extends over seven days of which three are really essential; these are the day before the Sankrānti, Bhogī Pongal, the day of the Sankrānti, Mahāpongal, and the following day, Māṭṭu Pongal. The whole festival has not been described with the thoroughness of Holī or Dīvālī, but in parts the descriptions are full and accurate. In particular we follow Gover whose description of Mahāpongal exactly tallies with that of eye-witnesses I have questioned.[3] Particularly among the Tamils the Pongal is regarded as marking

[1] Kane, *op. cit.* v, pt. 1, pp. 223–4.
[2] Meyer, *Trilogie*, pt. 3, *Indra*, p. 118.
[3] C. E. Gover, 'The Pongal festival of South India', *JRAS*, n.s. v (1870), pp. 91 ff.

the completion of the harvest. Houses are decorated, new clothes worn, and the whole festival is one of great social activity. The first day of the Pongal festival is Bhogī, a day dedicated to the worship of Indra. For some days previously the boys have been collecting, and stealing, sticks, grass, wood, dried cow-dung, leaves and any old household utensils, such as baskets, and guarding them until the time for making the Pongal bonfire. On the morning of Bhogī Pongal the fire is burnt in the presence of the whole family. The gloss is that it is an oblation to Sūrya, and perhaps Agni. After the bonfire there are sweets, and special kinds of food are prepared for a feast. On this day the cowherds go around beating drums. On the next day, Mahāpongal, the great Pongal, the opening performance is the bathing of the women. This is of importance as they have a vital part to play in the worship that follows. For this day's feast new vessels are brought into use, and an important feature is that in preparing the Pongal feast new season's rice only must be employed. In the house-yards, meanwhile, preparations are in hand for the central rite. The women prepare a great ball of cow-dung, said to represent the head of Ganeśa and here named *Piḷḷaiyār*. This is set on a stone in front of a specially constructed hearth in the centre of the yard. Now the women use rice flour and make an elaborate design upon the floor. Whether this design differs from that made daily I cannot discover, but the important feature is that smaller lumps or balls of cow-dung are placed at each intersection of the lines. Finally, orange-coloured (*banti phūlu*) flowers are stuck into the top of the *Piḷḷaiyār* and of the smaller balls of dung, and an oblation of oil is poured over the former's 'head'. Then follows worship of this icon. At the exact moment of the Sankrānti cow-dung cakes are placed in the hearth and a pot of milk is set on. It is the manner of heating and boiling of this milk which is the heart of the festival, for the boiling (Tam. *pongu*, to boil) gives it its name. It further prognosticates the fortunes of the family during the coming year, and is thus of crucial importance. Afterwards another special meal is eaten and in the evening the best clothes are donned and people go out visiting. The third day is known as Māṭṭu Pongal or *Gopūjā*, the cattle Pongal or cow-worship. The day is a holiday for all cattle. They are specially adorned and given special food. In the evening there are processions of cattle taken to the local temples for the worship of the gods and invoking their blessings upon beasts during the coming year, and the ensuring of fertility, productivity and freedom from disease. On this day it is also customary to give presents of new cloths to the cowherds. The cloths are traditionally folded up and laid on the necks of the cattle. Here the festival effectively ends.[1]

[1] The use of dried cow-dung 'cakes' (Hindī, *gudnaiṭe*, San. *godhana vaṭṭaka*) and *akauvve* flowers for the worshipping of the *rās* (San. *rāśi*), or collected grain upon the winnowing floor at the time of measuring it, is recorded in the Uttar Pradesh by Vāsudev Śaraṇ Agravāl in *Pṛthivī-putra* (New Delhi, 1949), pp. 108 and 223.

There is considerable difference in the timing of the events of Pongal in different accounts. It is agreed that among pastoral castes the Māṭṭu Pongal assumes the greatest importance. It also seems as though the Mahāpongal ceremonies are limited to the Tamilnad and parts of Andhra. The Māṭṭu Pongal is rather more widely reported. Among the Gollas it is described as being the most important festival of the year.[1] The feast is said to be dedicated to the god Kātama-rāya. The cattle are decorated and new clothes are assumed by the herd-boys. After a feast the cattle are sent to graze until the evening. Then a bonfire is prepared outside the village and the cattle, returning from the pastures, are driven through the flames. Special food is then given to the beasts. Milk is also boiled in the courtyards (at what time is not specified). We have already described the bullock-baiting and cattle sports of the Maravans and Kallans. These take place on the day of Māṭṭu Pongal. Another festival which is almost certainly directly connected with the Pongal is reported among the Badagas of the Nilgiris.[2] Here in the month of January when the ploughing ceases is held at Baireganni the festival of Heththeswami. This includes the making of a large fire through which a young bull is made to pass. According to the description milk pots are boiled on the occasion and the resulting boiling is regarded as providing omens. The fire-walking is also sometimes undertaken by men. Another note from the Tamilnād refers to cock-fighting as taking place on the day of Māṭṭu Pongal, and in Andhra too bull-fighting is reported.

Thus Pongal is seen to be a festival of fertility in which the eating of the new harvest of rice and the end of ploughing feature. The boiling of the Pongal milk, the bonfire and the cattle-worship are equally important themes. There are many features which recall the North Indian Dīvālī. Among them none is more striking than the Govardhana and Piḷḷaiyār, both taking the form of lumps of cow-dung which are worshipped. The subsidiary modelling of cattle and men from cow-dung in the north takes the place of the smaller lumps which decorate the *muggu* design drawn in rice flour. Cattle-worship and sports of several kinds accompany both festivals. Equally there are other features which recall Holī, particularly the bonfire, while the association with Indra *may* be used, as it is by Meyer, to draw comparison with the Indradhvaja and Mārgapālī complexes. But the outstanding feature which links the pastoral rites of Dīvālī and Pongal is the driving of cattle across bonfires, evidenced for the former festival among the Kolis of Bombay and for the latter among the Gollas and Badagas.

[1] Ananthakrishna Iyer, *op. cit.* III, p. 213.

[2] Thurston, *op. cit.* (1909), I, pp. 96–101.

APPENDIX I

FIRE AND CATTLE FESTIVALS IN EUROPE

Turning from this survey of Indian festivals to their European counterparts it need come as no surprise that there are so many common elements. It is unnecessary to go farther than the *Golden Bough* to see that a great number of clearly related fire festivals occur throughout Europe.[1] It is also interesting to find that these festivals have transcended the bounds of geography, race and language and occur with many identical features among Celtic, Germanic and Slavonic peoples. Frazer treats the festivals as of two kinds: the seasonal fire festivals and the 'Need-fires', and although he hints at the latter being the source from which the former derive, we shall follow his account, often in his own words.

The most common seasons for the fire festivals are spring and midsummer, but they are also recorded at autumn and midwinter. The spring fires have become often associated with the Christian Lent, but their pre-Christian origins are not in dispute; indeed the pagan nature of the festivals is everywhere apparent. Sometimes, too, the spring fires are associated with Easter. A typical description is of the peasants of northern and central Germany collecting firewood upon hill-tops for the occasion. Brands from the fires protect houses from lightning and the ashes of the bonfires fertilize the fields, or mixed with water are a prophylaxis for cattle. As the fires die down young and old leap through the embers and the cattle are sometimes driven through.[2] On 1 May or thereabouts in Scotland, Wales and Ireland, there are records of the festival of the Beltane fires. These fires were still in vogue in the nineteenth century. A description of the Scottish customs was recorded by John Ramsay of Ochtertyre. On a prominent hill-top a circle of turf was cut and in the centre a fire prepared. The lighting of this fire was done with *tein-eigin* or forced fire, that is to say fire that was produced not with flint or steel but *by friction*, with a plank and wimble of oak wood. This making of fire by friction is one of the special features of the European festivals. The fire, once kindled, was regarded as a sovereign remedy against disease in men and cattle. Singing and dancing took place around the fire and finally the *bonnach beal-tine* (Beltane cake or bannock) was produced and eaten. One piece of this cake was marked and the unlucky individual who took this piece was regarded as devoted to leaping three times through the flames. There is a hint in this part of the festivities of a former prevalence of human

[1] I have used the abridged two-volume edition (London, 1957). Page references in this appendix refer to this edition.

[2] Frazer, *The Golden Bough*, pp. 805–6.

sacrifice. Another source notes that in Perthshire the Beltane festival was chiefly celebrated by cowherds; and another from the north-east of Scotland speaks of a belief that witches were abroad that night casting spells upon cattle. To counter them the farmers tied rowan branches over the doors of the cow-houses and kindled bon-fires (bonfires). Yet another source mentions the cattle being driven around the fires to ward off the murrain (foot-and-mouth disease). Then each man took home fire to kindle his own house-fire. In Wales too we hear of the kindling of the *coelcerth* or bonfire in May by means of friction of pieces of oak. People leapt through the fires and the ashes were considered to be charms.[1] Similar May bonfires have been reported also in Sweden, where they are kindled with two flints, and in Germany and Czechoslovakia.

The next seasonal bonfires reported in Europe take place at midsummer. Sometimes the festival is associated with the feast of St John the Baptist, but we cannot doubt that the celebration dates from long before our era.[2] At this fire too there is dancing and men and cattle leap through the flames. Garlands of leaves are thrown into the flames and snatched away. They are then preserved and fragments of them are burnt on the hearth during thunderstorms, or in cattle-stalls in time of sickness. In Poland the oak friction is again resorted to for kindling the fire and the cattle here too are driven through the flames. In Serbia herdsmen on this occasion light torches of birch bark and march around the folds and cattle-stalls. Even among the Esthonians and the Magyars these midsummer fires are found. Here too the cattle are driven through the flames and ashes are kept as charms against cattle sickness and against lightning. Similar festivities are reported in France and Germany. In the Isle of Man the cattle were folded and circumambulated with torches of burning gorse or furze. Cattle are driven through the midsummer bonfires in both Scotland and Ireland attended by similar rites, while the bonfires are also reported from Italy and Greece. Even in Morocco and Algeria there are reports of similar customs among the Muslim population. Here too cattle are driven through the fires to protect their health and increase. Frazer notices how this midsummer festival among a Muslim people contrasts with the orthodox lunar calendar and betokens a far older origin than that of Islam.[3]

We have already referred to the autumnal festival of Hallow-e'en in comparing it to the Dīvālī. Frazer remarks upon its popularity with the Celts and its less widely spread popularity elsewhere in Europe. He argues that neither the May festival nor the Hallow-e'en (together the chief festivals of the ancient Celts) can be associated with any agricultural festivity nor with any great 'hinge' of the Solar year (solstice or equinox). However, he writes, 'the one ushers in the

[1] *Ibid.* pp. 808–14. [2] *Ibid.* p. 814. [3] *Ibid.* pp. 826–7.

genial heat and the rich vegetation of summer, and the other heralds, if does not share, the cold and barrenness of winter. Now these particular points of the year, as has been well pointed out by a learned and ingenious writer, while they are of comparatively little moment for the European husbandman, do deeply concern the European herdsman, for it is on the approach of summer that he drives his cattle into the open to crop fresh grass, and it is on the approach of winter that he leads them back to the safety and shelter of the stall.'[1] Frazer therefore concludes that the festivals were popular among the Celts as a mainly pastoral people. This thesis, evolved for entirely different reasons by us in considering the Indian pastoral festivals and their relation to the ashmounds, and referring to a quite inverted climatic significance, remarkably concurs with the Indian evidence. The Hallow-e'en bonfires are recorded mainly in Scotland and Wales.

Finally, the midwinter festival throughout Europe is associated with bonfires, and a rich series of associations is connected with the Yule log, which in a quite mysterious way has insinuated itself, together with sacred gift-bearing trees and dancing around the bonfires, into the heart of the Christian birth story. The Yule log was frequently of oak. The festival is found in one form or another among Germanic, Slavonic and Romance speakers. The ashes from the fires are efficient in dispelling cattle disease.

Frazer reserves a special place for his discussion of the Need-fires of Europe.[2] Unlike the festivals which are essentially seasonal, the Need-fires are by definition occasional, resorted to in times of distress. It seems clear that almost the sole form of distress for which the Need-fires were invoked was disease among cattle. 'They may perhaps be regarded as the source of all the other fire festivals.' The word is generally derived from an Old English form *niedfyr*, and Frazer writes of it as common among the Teutonic peoples. It is not clear whether the name derives from its being used in times of need or whether as some sources seem to imply it derives from the method of its production. Be this as it may the fire is necessarily produced in a ritual manner, characteristically by the friction of two pieces of oak wood, and generally there is a prohibition on the use of iron or upon its being made inside a house.[3] Sometimes it is known as 'wild-fire' to distinguish it from the tame fire of the domestic hearths, and among the Slavs it is known as 'living fire'. In all these names there is at least a realization of the special, as if magical, manner in which the fire is produced. The history of the custom can be traced from the early Middle Ages when the

[1] Frazer, *The Golden Bough*, pp. 828–9.

[2] *Ibid.* pp. 835 ff.

[3] One is reminded of the Vedic sacrificial fires where Agni is produced with friction between prescribed fire sticks; and of the surviving use among primitive people in India of this method of making fire for sacred purposes.

Christian Church denounced it as heathen, down to the middle of the nineteenth century in Great Britain and perhaps even longer in other parts of Europe. As a necessary preliminary to the kindling of the Need-fire all domestic fires within the settlement must be extinguished. Sometimes the magically kindled fires would be carried from settlement to settlement. The actual kindling was done by specially chosen individuals: among the Slavs it was reported as done by an adolescent boy and a girl, both stripped naked. The bonfire was stacked upon a chosen place, sometimes upon a little knoll or eminence, sometimes near a church. When the blaze had died down the cattle were driven through the embers. Then the young people rushed upon them, sprinkling themselves and blackening themselves with ash; while live embers are used to kindle brands with which the house fires are relighted. Sometimes the smoke of the fires was regarded as medicinal and fumigation was a necessary part of the rite. It is little over a hundred years since the Need-fires were lighted in Great Britain, perhaps less. How they were regarded, and how impartial the evidence which records them, may be seen from two contemporary observers' accounts of what then occurred. About 1840 there was a great outbreak of murrain among cattle in Cumberland and Westmorland. William Dickinson writes of the search for a cure:

> Old men were consulted, and old books were ransacked for remedies without effect.... Preventives were next looked for and a rumour got afloat that the Needfire was coming from the Eastern parts of the county. At first none knew what the Needfire was to be or to do, only it was said to be a charm to check the ravages of the murrain....After a few days of mystery and much talk columns of smoke were seen to arise to eastward, to become more numerous and to approach day by day....Where it was first kindled no one could tell, but it was said to have originated in Yorkshire by someone rubbing two pieces of dry, half-rotten wood together till they took fire....The fire was not to be suffered to go out, nor to be taken into any house, or the charm would be lost, till got up again in the same way; and the greater the smoke the stronger the charm. Having been from home one day, I was not a little surprised on returning home one evening, to observe a grass field near my house so trampled with cattle that herbage was scarcely visible on it; and, without much enquiry, was quickly informed that Needfire had been in use. I had previously scouted the idea and directed that it should not be admitted....However the fire was not effectual in this instance.[1]

Another version of the Need-fires upon the occasion of the murrain epidemic of 1840 is contained in the papers of William Pearson of Borderside in the parish of Crosthwaite, Westmorland. Here the fire was actually lighted in the narrow lane, within about 20 yards of the Kirk tower.[2]

In sum, at whatever time of the year and whatever part of Europe these fire

[1] W. Dickinson, *Cumbriana* (London and Whitehaven, 1875), pp. 114–17.

[2] *Papers, Letters and Journals of William Pearson* (London, 1863), pp. 17–18. I am indebted to Professor G. P. Jones, formerly of Sheffield University, for these two references.

ceremonies are celebrated they show a striking resemblance. The magical kindling of great bonfires, the dancing around and leaping through the flames and the driving of cattle herds through the embers are almost universal. Also widespread are the processions and races with lighted torches, round fields, pastures and cattle stalls. While there is a subsidiary element of solar myth in the ceremonies the major theory accounting for them must be that which Frazer calls purificatory. The fires provide a remedy against disease for cattle and men, and against lightning and natural calamities. They also ward off witches. Further they promote the fertility of cattle and of men, and to a lesser extent of crops and pastures. In considering the Indian evidence we cannot fail to be struck by the many correspondences between the fire festivals of the two continents, and we are encouraged to see them as belonging to parts of a great cultural continuum whose history has yet to be worked out. In this event we may be justified in asking whether the European evidence may not be invoked in explaining the lacunae in the Indian. We must also consider whether this great spread of cattle-fires and Need-fires may perhaps be invoked in our interpretation of the evidence afforded by the ashmounds of the Deccan.

APPENDIX 2

FIRE FESTIVALS IN IRAN

It is perhaps not unexpected that fire festivals should be found in Iran, in view of their occurrence both in Europe and the Mediterranean to the west, and in India to the east. That they occurred there anciently, and have even survived into the present century, is particularly interesting in the light of the indications that ashmounds may be found in the same parts of the country (see above, p. 70). Although the festivals were until recently associated particularly with non-Muslims, some forms are also found among the Muslims, but there need be no doubt that they persist as pre-Islamic survivals. A more interesting question, but one requiring more research than we can give it, is whether the bonfires are also older than the Zoroastrian rites with which they have been identified. In India we find little evidence of contact between the Aryan fire-altar rituals and the great seasonal folk-fire ceremonies. In this event it is not difficult to postulate their pre-Aryan character, a character which association with the ash-fire cult would also imply. But in Iran the matter is not at first sight so clear cut, and the modern evidence has been less thoroughly studied.

Although there is often doubt about the actual dates of the ancient Iranian festivals, and even confusion between them, it seems that at base they are

seasonal in character, marking the winter and summer solstices and the spring and autumnal equinoxes. Our source has been in the main a compilation of the Society of Iranology which leaves many questions unanswered but provides interesting material for comparison.[1]

There are a number of fire festivals known from literature, some of them also surviving today. The most important is the Jashn-i Sada, the festival of 'a hundred', taking place either 100 days after the beginning of autumn or 50 days and 50 nights before the commencement of spring. In either event the date was in midwinter, either in January or late December. The festival is spoken of by the polymath al-Bīrūnī (died A.D. 1048) as originating among the Tokharian peoples of Central Asia. He states that the smoke of the fires drives off evil things.[2] The Persian epic Shāh-nāma also describes the festival, and so does the *Tārīkh-i Bayhaqī*, an eleventh-century work of the time of Mas'ūd of Ghazni. The Jashn-i Sada survived with royal splendour among the Ghaznavid rulers, and many poems were written for the occasion. Today the same festival is found particularly among the Zoroastrians of Kerman. It is held on the 10th day of Bahman (30 January). Outside the city on a level ground they amass a great pile of wood and inflammable material. There are three days of the festival, one before the fire and one after it. The central ceremony takes place after sunset; it consists of the triple circumambulation and lighting of the pile by three fire priests in white robes. Many people assemble to watch, both Zoroastrian and Muslim. When the fire is reduced to a heap of ashes they gradually converge on it and jump through the smouldering remains; riders leap their horses over it. We are informed that similar festivals occur in Turkey, Armenia, Syria and Kurdistan, especially near the cities of Erevan, Bitlis, Van, Erzurum, etc. The Kurds name it *tolidān* or *drendez* (Armenian, *terndesse*), and they too believe that the fire brings abundance, fecundity and blessings.

Other fire festivals mentioned by the earlier writers are Aḍhar Jashn, which al-Bīrūnī tells us was also performed in the height of winter and which may perhaps represent some confusion with the Jashn-i Sada; the Shahrīvargān, celebrated at the beginning of the autumn; and the Jashn-i Sūrī, a spring fire-festival celebrated just before the Naurūz or New Year's Day. Here, too, people jump through the ashes of the fire, water is thrown and songs are sung.

In the accounts we have noticed certain features stand out. There is no mention of the association of cattle with the fires, but this may arise from the paucity of the evidence. A Muslim Iranian informant, who recalls jumping through the

[1] Afshar, Corbin *et al.*, *Jashn-i Sadeh* (*La fête de Sadeh*), Publications of the Society of Iranology, no. 2 (Teheran, 1946). I am indebted to my colleague Dr T. Gandjei for reading the text for me.

[2] al-Bīrūnī, *Athār-al Bāqiya* (*Chronologie orientalischer Völker von Albīrūnī*), ed. Sachau (Leipzig, 1876), p. 226.

bonfires in his youth, tells me that he has heard that cattle owners used to drive their herds *around* the ashes, and probably local observation and questioning could confirm this. There do not appear to be references to such bonfires in the most ancient texts, such as the *Avesta*, and it seems that they would have been scarcely in keeping with the ancient Iranian concepts of the sacrificial fire and its purity. Here we recall the Indian Aryan fire sacrifices which also have little or no connection with the folk bonfires. If we compare the Iranian and Indian festivals we see traces of the Pongal bonfire in Jashn-i Sada, and of Holī in Jashn-i Sūrī. There may even be traces of Dīvālī in Shahrīvargān. But these Indian festivals are regarded as remote from the cultural milieu of the *Rigveda*, and we may question whether their Iranian counterparts are not similarly removed. In both a case can be made out for the folk bonfires being survivals of an older seasonal rite, linked with the agriculture and economies of the societies involved. Thus it may be considered that the Iranian bonfires are part of the same great complex which we have discussed above.

CHAPTER 9

INTERPRETATION OF THE ARCHAEOLOGICAL EVIDENCE

In earlier chapters we assembled the data relating to the ashmounds. We shall now attempt to interpret them and answer the questions which gave rise to our inquiry. The question 'What is the ash?' has been answered with fair precision (pp. 80–7), but it in its turn gives rise to further questions: 'How did such great mounds of cow-dung come into being?', and how were they converted to ash? This calls for further consideration. The first part of the answer is contained in the excavation at Utnūr, where the history of an ashmound is traced with some certainty, and thus we must now consider the meaning and interpretation of the Utnūr excavations. To do this we take up the story where we left it in chapters 2–3. We then turn to the evidence supplied by the other mounds (chapters 4 and 5) and consider such questions as their relative ages, the consistency of their evidence in the light of Utnūr, and so on.

1. UTNŪR

The Utnūr site was tangled and confused. Our pits were so limited that sometimes there cannot be absolute certainty regarding the sequence, and it is possible that if further, more extensive excavations were now done some details would be found to require modification. Nevertheless, the major outline is quite firm and in offering this reconstruction of the life of the site we may be confident that the main features will not require drastic revision.

Evidence is not yet available for the state of climate or natural cover when the Utnūr site was first occupied, but at least it may be said that some time before 2160 B.C. ± 150 years the first settlers moved into the area bringing with them their herds of cattle (*Bos indicus*), sheep and goats. Culturally they belonged to the Neolithic of the Deccan, whose origins we have traced to north-eastern Iran, moving down into peninsular India in a series of waves which as yet we cannot fully trace or understand.[1] It may be reasonably inferred on geographic grounds that, even had there been a rainfall considerably higher than the modern figure, the general appearance of the neighbourhood would not have been much different from its present form. That is to say the site would have been in light

[1] See Allchin, *Piklihāl Excavations*, pp. 140–3.

scrub or open woodlands, upon this gently sloping ground beside a small stream, a source of perennial water. There is no indication of any large settlement in the immediate vicinity, indeed no known Neolithic settlement is less than 30 miles away. The great Tungabhadrā river, also called Pampā and Dakshiṇā Gangā, is some six miles to the south.

Period I A

The site chosen lay on a small outlier of hornblende schists and pegmatoid gneisses, over which the subsoil was a typical orange-red moorum. The oldest level recognized in the excavations was a sticky dark greenish soil, preserved under later deposits and probably representing an old humus, modified by occupation (Layer 12 of Site I). This layer produced a small number of fragments of pottery and other debris and had a much-puddled surface bearing the imprints of many cattle hoofs (Pl. 4*b*). Thus we may infer that the old humus was also enriched by cattle-droppings. The earliest human activity we can trace on the site was the digging of a shallow cut or trench in Site I, some 13–15 ft. wide and not more than 1 ft. deep. This cut, it is inferred, lay around the perimeter of an area, part square, part polygonal, about 200 ft. along either side, and marked the outline of a cattle-pen. On the inner side of the cut there survive the last traces of a shallow bank of spoil earth which probably took the form of an earth and thorn fence around the whole area. In the shallow cut itself was found much debris of human occupation—fragments of pottery, charcoal, cattle bones, etc. We infer that this indicates human occupation in flimsy huts *outside* the thorn fence. This period we describe as Period I A (see Fig. 17).

Period I B

The evidence which succeeds is fraught with problems and its interpretation is no easy matter. The surface of Layer 12 is in places extremely hard, almost vitreous, and throughout the later phases of the site such surfaces are invariably associated with a burning. On the other hand in this instance there is no trace of the ash deposits which at almost all other levels accompany such burnt surfaces, and we are faced with the suggestion of a burning followed by a clearing away of the ash from the whole excavated area. In view of this absence of definite evidence we cannot say more about this probable burning, but we may note that the surface concerned is only found inside the shallow cut. From the same period must come the filling of the cut, Layer 11 *a*, which contained plentiful occupation debris as well as large quantities of fragmentary charcoal, perhaps in part from the burning. The basic constituent of the filling is a red moorum mixture, which probably represents the decay and subsidence of the bank we

noticed above. The impression provided by all this is that the whole period was not of very long duration. Immediately on top of the burnt surface of Layer 12 is a light loamy soil. Once again we cannot yet say precisely what this soil indicates. It occurs only inside the cattle-pen area, generally being found only within the line of post-hole line 9, although it also spills over occasionally to trench 8. However, both of these features are slightly later in time, and it is probable that the coincidence springs from the fact that all three coincide with

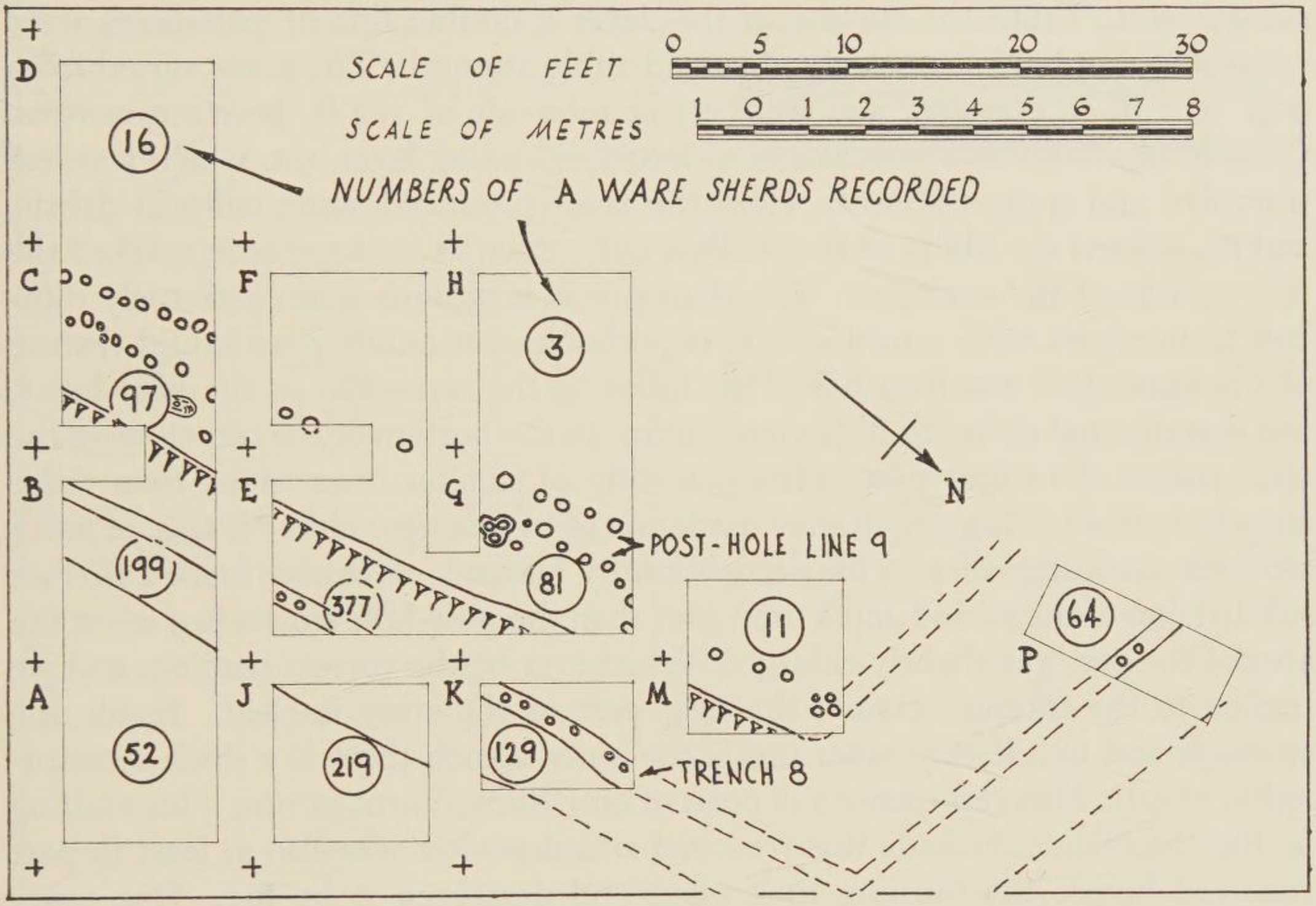


Fig. 17. Utnūr 1957. Site UTN I. Periods I A, B and C.

the area contained by the shallow cut. There are two possible interpretations of this layer, either it represents a levelling of the site preparatory to the new constructions we are to note, or it represents an accumulation of unburnt cow-dung. We incline to the former interpretation, for the surface of the layer is extensively burnt and in one place it still contained in a well-sealed pocket an accumulation of ash. The probability is then that the layer represents a levelling associated with a new low bank and thorn hedge around the perimeter of the pen, on top of which cow-dung accumulated to be finally burnt. If so then the inclination visible at one end of the ash pocket in Site I (Layer 10) (Fig. 4) is

all that survives of this bank. We designate the period thus defined as I B. It is from this period, from Layer I B (9) of the excavation, corresponding to I (11*a*) of the final report, that a charcoal sample analysed by the C-14 laboratory of the British Museum produced the date already quoted (p. 46).

Period I C

The next sub-period, I C, began with the laying down of a thin levelling of light-brown soil (Layer 9), the surface of which had been much trampled and compressed. From the surface of this layer a double line of post-holes were excavated, implying a stockade of considerable strength. The posts varied from 9 in. to 1 ft. in diameter and were set at intervals of 1–2 ft. between centres. Outside this line there were traces of a corresponding layer, 9*a*, which was less trampled and quite unburnt. Here the layer produced some cultural debris, and completed the filling of the shallow cut, which as we have seen marked the first outline of the enclosure. The sequence is now once again extremely difficult to interpret with assurance. It is probable that another structural feature of the same date was trench 8. This followed the same line as the post-holes, but was situated about 10 ft. beyond them. In the bottom of the trench were the clear traces of further post-holes, generally of smaller dimensions than those already noticed. This trench may mark one of two things: either it was an outer stockade enclosing an area for occupation by humans, or it may mark a further subdivision of the period and a time later than the post-hole stockade 9 when the area of the pen was slightly enlarged. Whichever be the correct reading, and we incline to the former version, the next part of the story is clear. Inside the stockade and to a lesser extent inside the outer trench there is a thick accumulation of ash. This represents a deposit of cow-dung, burnt *in situ*. Our reading is that the earlier stockade was removed and the outer was also at least in part removed before the burning took place and destroyed it by fire. One other feature associated with the surface below the ash was a shallow pit scooped out just beside the stockade. This contained the infant burial already reported, whose implications we shall consider below (p. 165). Outside the stockade Layer 8*a* contained a human occupation debris which must correspond to this interior cattle occupation.

Thus Period I C not only witnessed an important stage in the structural development of the site, but it also produced evidence of the first really widespread burning. The ash of Site I, Layer 8, is of an average depth of 12 in., and a maximum of almost 2 ft. It can be traced and seen as a single vast burning extending over an area of some 200 ft. in length and slightly more in width, in fact throughout the whole site.

Period II

The next period begins with a levelling layer of yellow speckled make-up. This was put down within the earlier perimeter; it also extended for a few feet beyond in one place, but tailed away in the centre of the site. It achieved its maximum thickness in the outer part of Site II, but generally it was little more than 2 in. in thickness. Associated with the levelling are two more structural phases. First a new single stockade (post-hole line 6) was erected on much the

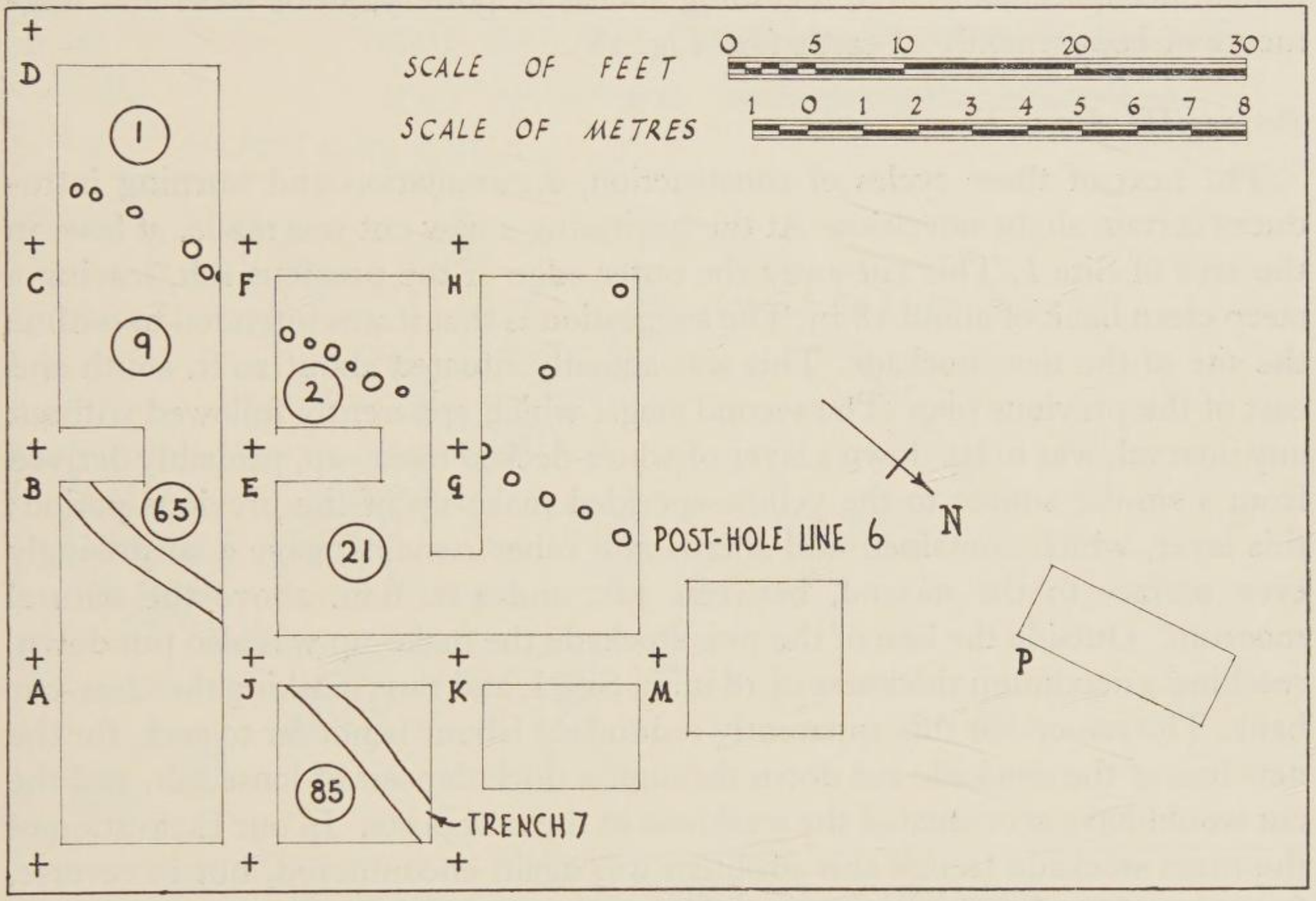


Fig. 18. Utnūr 1957. Site UTN I. Periods II A and B.

same lines as that of the previous period, but a few feet back from the edge of the mound; while a second outer fence is suggested by a new trench, 7, less regular than its predecessor (trench 8) but following generally the same lines. There is a suggestion that the northern side of the stockade shifted slightly towards the south during this rebuilding, which, however, the limits of our excavation did not allow us to trace beyond Site I. Trench 7 gives rise to similar problems to those of its predecessor, for in both cases the sealing was irregular: in some places layers were present and in others they were absent and to read the evidence correctly it is necessary to gather the often conflicting evidence and

sift it carefully. The intersection of so many trenches and post-holes in Site I makes its evidence very hard to clarify. Over the speckled levelling another ash accumulation, even deeper than its predecessor, gives evidence of a further cattle occupation, followed by an equally extensive burning. Several stray post-holes were noticed inside the main stockade, suggesting that there were subsidiary fences for smaller pens. As in the case of the previous period the area of cattle occupation inside the inner stockade was quite devoid of sherds, etc., while the space between it and the outer stockade produced a fair sample of human occupational debris, including sherds of pottery, stone tools and fragments of bone, mainly of cattle (see Fig. 18).

Periods III A and B

The next of these cycles of construction, accumulation and burning introduces certain slight novelties. At the beginning a new cut was made, at least in the area of Site I. This cut away the outer edge of the previous ash, leaving a steep clean bank of about 18 in. The suggestion is that it was intended to outline the site of the new stockade. This was actually situated about 20 ft. south and east of the previous plan. The second stage, which apparently followed without any interval, was to lay down a layer of white-flecked make-up, probably derived from a similar source to the yellow-speckled make-up of the previous period; this layer, which contained odd sherds and other remains, gave a surprisingly even surface to the mound, between 3 ft. and 4 ft. 6 in. above the natural moorum. Outside the line of the new stockade the make-up was also put down, reaching a maximum thickness of 18 in. in Site I, and thus masking the clear-cut bank. The reason for this apparently redundant labour is not far to seek, for the new line of the stockade cut down through a thick deposit of loose ash, and the cut would have accentuated the weakness of the new posts. In our excavation of the main stockade trench this problem was again encountered, but in reverse, for it was found to be necessary to leave the consolidating make-up, at least below the level of the sealing of trench 4, until the trench had been cleared. The third stage in the process was the construction of trench 4, about 2 ft. inside the new cut (already masked). The trench was more regular than any of its predecessors, and so too were the post-holes placed along it at regular intervals. The new stockade thus constructed was also on a new alignment, which influenced all the later structures on the mound and thus its final form. Inside the stockade there was a second line of post-holes, also of regular alignment and spacing, although tending to alternate between larger and smaller posts, which ran across the eastern end of the pen some 17 ft. from the stockade. Other posts, perhaps of a verandah or reinforcing struts, were discovered about 4 ft.

beyond, set at greater intervals. This completed the internal arrangements of the pen.

Outside the stockade a further trench (3) ran, at a distance of 15 ft., along the surface of the levelling. This trench did not give any evidence of post-holes but several other interesting features were recorded. First, it was unusually deep and penetrated into the natural moorum. Shallow heaps of this material lay still scattered on the inner bank of the trench. The filling of the trench was a

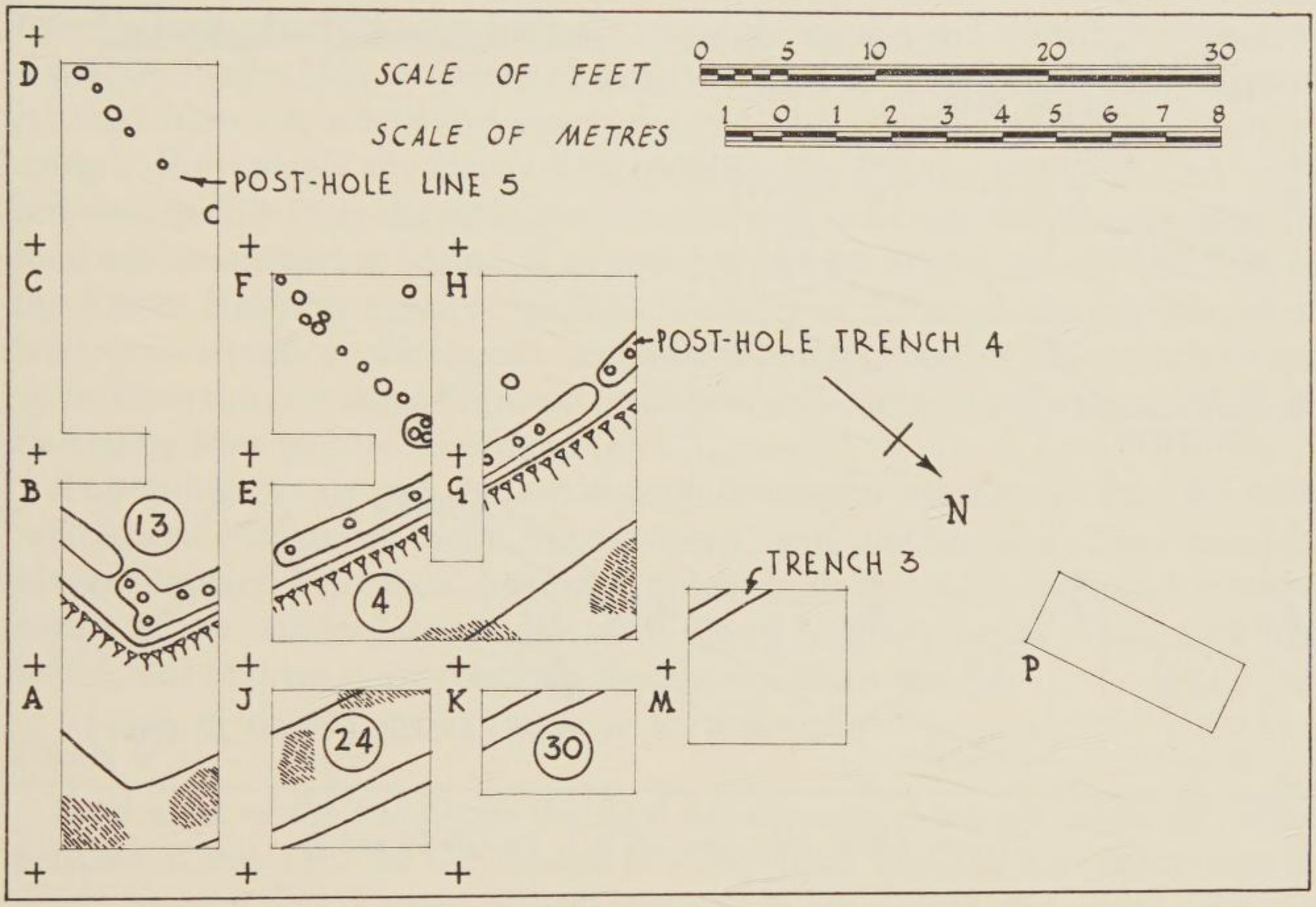


Fig. 19. Utnūr 1957. Site UTN I. Periods III A and B.

loose debris with plentiful fragments of cattle bones, sherds, etc.; in the lowest levels it contained nodules of stone which had evidently served as the packing for posts. Once again we conclude that this trench represents the line of an outer stockade, and once again the evidence of human occupation, so noticeably absent inside the central pen, is concentrated in this area.

The surface of Layer 5 had been trampled hard and bore many traces of irregular pitting from cattle hoofs. In places it showed also traces of burning. One curious instance of this was noticed in Site I where a small lower sub-division of the levelling had a hard burnt surface. Whatever ash there may have

been associated with the two burnings in evidence at this point has however disappeared; and the only definite deposit of ash on this level, sealed by the next levelling, was of a series of small pockets in Site I. Taken together, these several indications make it abundantly clear that there were burnings of some kind on the surface of both phases of this period (see Fig. 19).

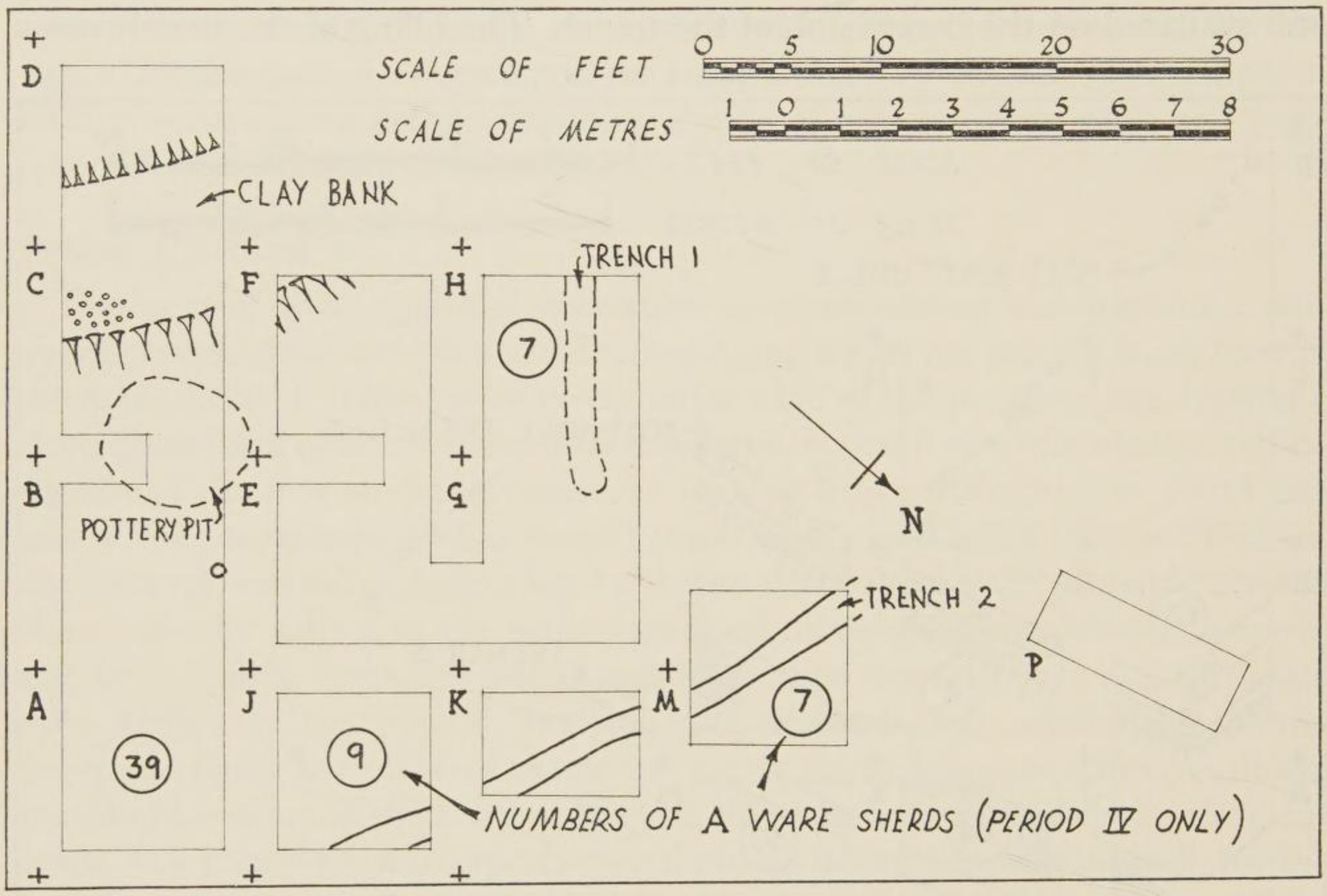


Fig. 20. Utnūr 1957. Site UTN I. Periods IV and V.

Period IV

Period IV opens with the final levelling of the site. This was of a new kind. A layer of brown, sticky, clayey soil was put down, around the perimeter. In the centre of the mound it was absent and in Site II it only appeared in the outer end of the trench. The soil also appears in a thin, attenuated form upon the surface of Layer 5 outside the perimeter. On the crest of the bank the clay reaches a maximum thickness of about 18 in. It thus forms a distinct band running around the outer edge of the mound. The surface of the layer is in places greatly scratched and broken up by recent ploughing and digging, but where it is intact it appears as a very hard, trampled, greeny-brown substance of almost glassy quality. It bears ample traces of burning and in places has small

pockets of ash lying undisturbed upon its surface. These pockets have however survived for the most part in protected places where they were sheltered from recent attempts to clear them. The principal occurrence is in Site III, where it is protected by the spoil from the recent well-digging operations. Under this spoil there is a thick deposit of hard vitrified ash resting upon the clayey layer. The ash here is more than 3 ft. thick. Clearly this explains the slightly saucer-shaped appearance of the mound, for in this final stage of its life the accumulating ash was evidently heaped up around or upon a thorn fence—of which traces remain upon the undisturbed parts of the slope—and contributed towards a wall of dung which, at a certain date, was fired to form an ash wall. Thus in its final form the ashmound was converted into what Foote called a 'cinder camp'. Fortunately the clayey layer produced a quantity of sherds and other remains, mainly from the outside of the ash wall, and these enable us to date the final ash-accumulation period. The remains are still, with little modification, of the Lower Neolithic types of Piklihāl. Possibly of the same date, or somewhat later, was trench 2, which ran around the outer slope of the mound some 30 ft. from the clay bank. This too contained only Neolithic sherds, although in its sealing later pottery was found (see Fig. 20).

This brings to an end the ash accumulation and burning cycles. We have noticed evidence of five major and two other conflagrations as well as numerous hints of smaller, more local, burnings, of which the last carries a final clue to the nature of the 'cinder' camps. We shall return to the question of the burnings below, but first we must conclude the history of the site.

Period V

Over most of the site above the final ash deposits there is a depth of soil of between 1 and 2 ft. As the mound has only been brought into cultivation in recent times and as the well-formed humus continues unaltered under the loose spoil from the recent well-digging, it may be assumed that this whole formation, although now mixed and disturbed, is ancient. This is borne out by the various early historic trenches which we must now record, all of which were dug from below the modern humus, but on the surface of Layer 2, the typical sub-humic soil of the region. In other words there is a strong suggestion, supported by the pottery and other finds, that the ashmound was abandoned for a very considerable period of time before the early historic activities which we shall notice. The first new feature, which began after the mound was abandoned and continued sporadically throughout its subsequent history, was the arrival of porcupines and other burrowing rodents. The activity of these animals brings with it another interesting piece of evidence: it seems that during the Iron Age

the site was used for camping and although no deposits of that date are found on the surface nor are any pits or trenches of that date so far recorded there, the sherds of typical Iron Age pottery which were dropped found their way into the burrows and were discovered during the excavations. At first these deposits gave rise to some confusion as they were often snugly buried beneath earlier sealings, but in every case where such nests and burrows were tracked through the real answer was the same.

At the beginning of the Christian era when Ij perhaps assumed for the first time significance as a market village, several small hamlets appear in its vicinity. One was noticed on the bank of a stream near the Ij mound itself, and another is implied by the scatter of pottery of the period in the fields to the south of the ashmound. This settlement also touched the mound, for a trench and several post-holes and pits were noticed, cut from immediately below the humus. The cultural remains associated with these pits allows them to be dated with some certainty, and although the excavation was not extensive enough to determine the form of any structures, etc., it adds evidence for this chapter of the history. From the same date are a number of tunnels evidently the work of human hands which appear to indicate that the ash was sought after for some purpose (? perhaps to grind for whitewash). Thus in Site III a tunnel of 4 ft. in height ran under the ash wall, while in Site II a great pit of even greater depth had removed considerable quantities of ash. It is not certain whether the smaller tunnels associated with this pit are of human or animal origin, or both, but they are all dated by the finds. Finally, the latest evidence of digging of this kind, whether human or animal is immaterial, is contained in Pit I L where a single sherd of medieval pottery was found in a burrow only a few inches above the earliest floor of the Neolithic cattle-pen.

The last chapter in the history of the mound opens with the excavation of a well just beyond the south-west corner and the deposition of the loose spoil upon the west side. This spoil had every indication of being of recent date: certainly it was later than the early historic sherds sealed beneath it in a burrow in Site II, but it was evidently also earlier than the bringing of the mound under the plough. This as we have seen is the product of the last century. Since that date the cultivators have systematically destroyed the ash wall and dug up the other ash deposits associated with the final burning. These events bring the story to an end.

2. OTHER MOUNDS

In the light of our interpretation of the stratigraphy of Utnūr we may also understand those other mounds from which exposed sections, or earlier excavations, are sufficiently informative. In all, three mounds present themselves. The first is Kupgal 1, of which Newbold's excavation report leaves a clear description (see above, p. 49). The section drawing given in Fig. 21 is an idealized reconstruction of Newbold's account. It appears that upon the natural moorum the lowest layer of dark earth corresponds to the basal layers found throughout Utnūr. The depth of this layer at Kupgal is however in excess of the equivalent layers at Utnūr. The nature of the next layer with its ashy earth and charcoal nodules, while clearly indicating that a fairly large burning had taken place, is not like any of the layers found in the centre of Utnūr, but it must be taken as a separate burning to that responsible for the next layer. The third layer, of ash and also vitrified ash in mixed condition, of a depth of 5 ft., is apparently the result of a single burning after a prolonged period of accumulation. It may be compared with the comparable thickness of ash in Layer 8 at Kudatini. Then after another levelling the process of accumulation began again and another considerable depth of ash testifies to another burning. There are thus indications of at least three burnings in this section. In addition there are the ash 'walls' around the perimeter of the mound. These may be inferred to represent a period comparable to that of the ash-wall accumulation at Utnūr. In both cases they betoken the end of the ash accumulation at the site.

The second site from which stratigraphic evidence is available is Gaudūr (above, p. 62). Here Munn's published photograph and notes provided the basis for our tracing of the section (Pl. 9*b*). The sequence begins at an unspecified point above the base of the mound which is nowhere reported. The lowest layer is ash of considerable depth. Then after a clean break and a level surface there follows a second ash layer slightly less deep. The lower parts of this layer were variously burnt to degrees of vitrification. On the upper surface of the layer numerous stones were embedded. On top of this stony surface, which perhaps represents a levelling, there were repeated thin deposits of occupation debris: bones, potsherds, charcoal, etc. These, occurring well within the perimeter of the mound, must indicate a period of human occupation. Over this occurred another ash layer of about a foot in thickness. Then another layer of sandy soil, which without fresh examination cannot be exactly identified, but which may represent either a period of abandonment and the accumulation of a wind-blown sandy soil, or (and this in our view is the more likely) a period of levelling of the sort encountered at Utnūr. Above this was another layer of ash,

and although ash continues in the higher parts of the mound the section ends at this point. There are thus not less than four burnings represented in the mound together with one period of human occupation and one of possible abandonment.

The largest section is that of the Kudatini mound. We have already described it in some detail and given a sketch of the exposed side of the mound (p. 55

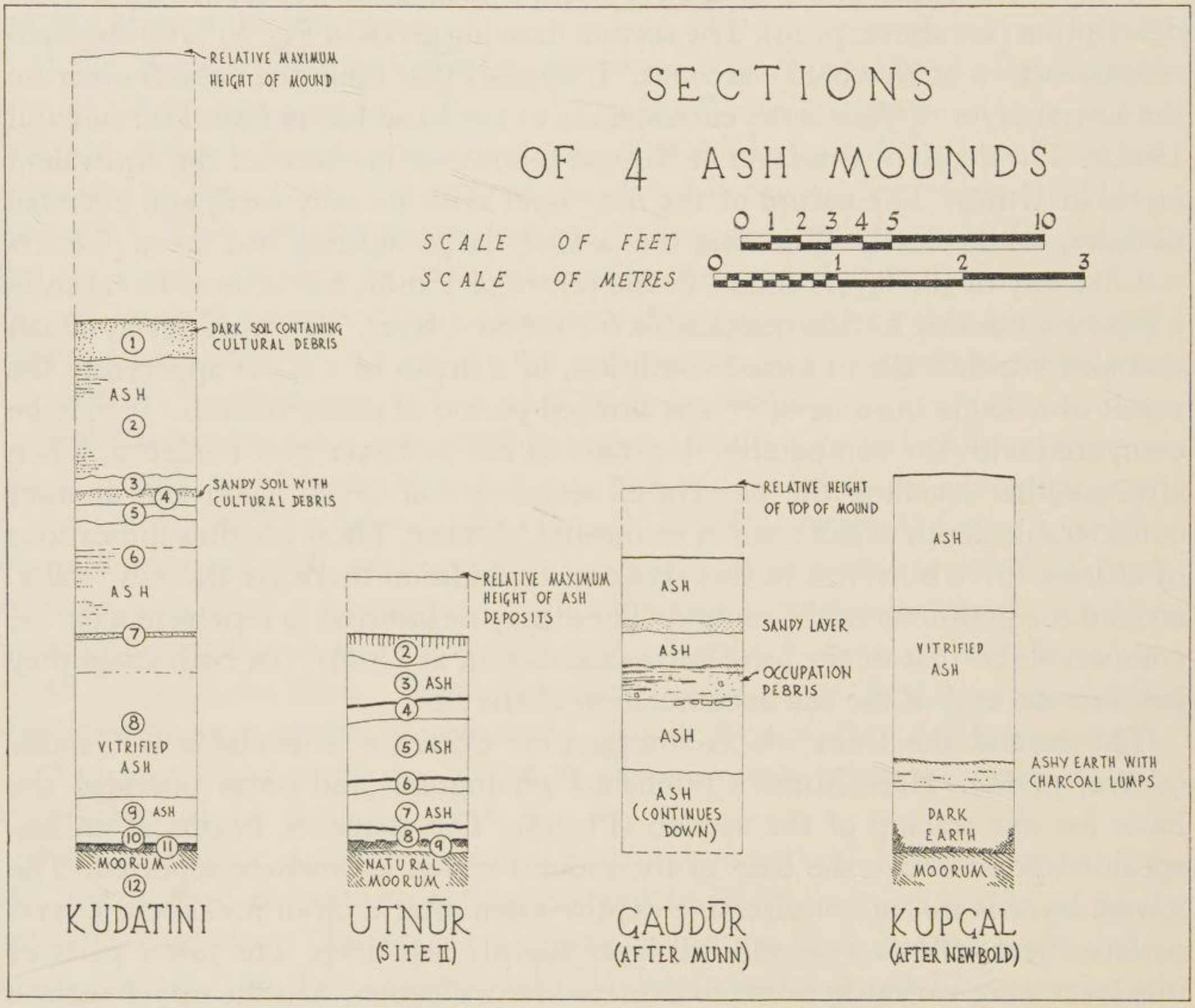


Fig. 21. Comparative sections of Gaudūr, Kupgal, Kudatini and Utnūr ashmounds.

and Pl. 10 and Fig. 12). How great the Kudatini mound is when compared with the other sites may be seen in Fig. 21. The basal make-up resembles Utnūr. On a levelled moorum surface Layer 11 appears as initial cattle occupation, and Layer 10 is also quite like the lower layers of Utnūr (Site II, Layer 8). There followed a period of ash accumulation of normal dimensions and after a surface formation and burning another (Layer 8) of unusually large dimensions. This ash was often completely vitrified and must represent the reduction of a once

truly immense deposit of cow-dung. After a possible surface and another smaller ash deposit came Layer 7, a grey ash soil, either representing a levelling or perhaps a period of abandonment, and then in Layer 6 another great deposit of ash. This deposit is of particular interest because it appeared to be regularly bedded in layers of 3–4 in. in thickness. These layers related to the deposition but not to the burning. Layer 5 was a thin powdery soil with ash admixture whose meaning is not readily clear. Above it Layer 4 was a sandy soil with occupation debris, and over this another mixed soil and ash layer. These three layers (3–5) must represent a new style of occupation of the site. Layer 2 is again ash, also with traces of bedding in its deposition, and Layer 1 is a final occupation debris. Above this point the mound continues for several more feet and certainly includes several more separate ash deposits.

Thus in all the sites there is evidence of an initial period of cattle occupation, followed by periods of dung accumulation and burnings. There are also signs of periodic human occupation of the inner parts of the sites. In the case of Kupgal, as at Utnūr, the final stage is one of the accumulation of ash walls. But the evidence of Utnūr seems to provide a certain key to the nature of the accumulations at the other sites.

Implications of the ash accumulation

We have now explored the evidence of stratification and seen how far it can take us in reconstructing the sequence of events. Convincing and full as the story is, there are still important gaps and we shall now attempt to probe certain aspects more deeply. We have seen that the mound arose upon the site of a cattle-pen, occupied during the Deccan Neolithic period. We have seen the evidence for the various cycles of construction, accumulation and conflagration. What of the actual mechanism of these cycles? Were the burnings accidental or intended? How did the dung accumulate? And above all why did the whole curious process, which we may call the ashmound cycle, take place, implying as it does a definite and peculiar complex of culture traits and human behaviour? Our further attention in this and the subsequent chapter will be devoted to these questions.

The size of the Utnūr cattle-pen can be computed with fair accuracy, and the suggestions are that it varied between 200 ft. and 180 ft. along each side. This permits us to compute the internal area of the pen, and also to form some estimate of the number of cattle which such a pen may have held, for there is a regular figure available for the modern traditional herding methods of this part of the Deccan.[1] At least this should provide some indication for the size

[1] I am here, too, indebted to my friend Dr Srinivasan, Reader in Anatomy in the Department of Animal Husbandry of Osmania University, Hyderabad.

of the herd held at Utnūr, for the bones of sheep and goat were present in very small quantity in comparison with those of cattle. If the traditional standard of space allowed for each beast be taken as from 50 sq.ft. to 60 sq.ft. it follows that the size of the Utnūr herd may be computed as between 660 and 800 at those times when the pen was at its greatest size, and 540 and 650 when the pen was at its minimum.

We have also seen that it is possible to estimate with some degree of accuracy the cubic volume of ash in several of the periods. For example, in period I C there was an ash deposit of 12 in. average depth and of a maximum of almost 2 ft. over the area we traced this particular deposit. For an estimated 40,000 sq.ft. this would give a cubic capacity of at least 40,000 cu.ft., if not considerably more. The ash deposit of Period II is even deeper and of approximately similar extent: this we may estimate to have a cubic capacity of as much as 75,000 cu.ft. Finally the relics of the vitrified 'ash wall' permit an estimate of its cross-section where it is protected by the later spoil-heap, and if this cross-section is accepted to have run around the whole mound in its final form, then its cubic capacity may be estimated at not less than 25,000 cu.ft. Thus these three burning periods between them left residues which in their full form may be estimated to have had a capacity of 140,000 cu.ft., and even now contain well over 100,000 cu.ft.

It may even prove possible to investigate the time required for such an accumulation of ash, for figures are available of the changes involved in converting dung to ash, etc. We have already noticed the reduction in weight involved in the drying of fresh dung, and in its conversion to ash. In drying, some 61 per cent of the weight was removed, and in firing another 77·3 per cent of the dry dung's weight. The loss of volume is somewhat different, however, and more difficult to estimate as it is progressive and the ash we have studied is at many different stages of fusion, etc., each one of which would involve a different figure of shrinkage. Thus without much more complete study of the ratios of loss of volume to temperature of firing, etc., the number of variables involved is too great, and particularly the variability of shrinkage in relation to degree of vitrification is so enormous, that further inferences are at present impossible. A better and more pragmatic approach would be to compare the accumulation of dung with comparable modern pens. Our observation suggests that the dung left in a pen in the forests south of the Ganges after a season's grazing is in the order of 1–2 ft. and over. If such a pen were to be fired the probability is that low temperature, below the level of vitrification, would not greatly reduce its depth, but with progressive degrees of vitrification the depth would be progressively reduced. If such a criterion be brought to bear upon the Utnūr ash

deposits it will be seen that they could, even in minimal circumstances, result from the dung accumulation of *single years* of grazing, or at most not more than five-year intervals: for the ash is for the most part not heavily vitrified. The accumulation of the ash wall is much more heavily vitrified, and no such estimate can safely be made for it. Another quite uncertain factor is whether the accumulations were the products of whole years of grazing or only seasons. Again it cannot without further observation be stated what would happen if unburnt dung was allowed to lie open to the elements for intervals of time, nor whether there were periods of abandonment then the site lay deserted.

Bearing in mind the uncertainties of the process, and the many variables, it is safer to proceed with caution. Allowing for the possibility that the accumulations in the large ash levels at Utnūr may probably represent the products of between one and ten years we see that this relates tolerably well to the periods of reconstruction at the site. On the one hand it is scarcely credible that a new pen should have been made each year only to be burnt at the end of the season; on the other it is reasonable to assume that the major conflagrations would be associated with the times when the pens were already in disrepair and in need of renewal. Again the obvious continuity of plan and its development through the earlier periods (although not necessarily through the final period) seems to indicate that the same community must have returned to the burnt-out pens after a sufficiently short interval of time for the memory of all the details of the pen to have been fresh. Whether the slight variations of design in Periods III and IV have any meaning we cannot say. Thus it is reasonable to conclude that the Utnūr pen represents a process of cattle occupation of between 40 and 100 years. But if, as we have several times seen reason to suspect, this is merely the product of those seasons which were linked with a general conflagration, and if the ordinary dung accumulations of other years were in some way or another dissipated, then the period may have been much more prolonged. Further, if there were longer hiatuses or periods of desertion then the figure might be yet greater.

3. COMPARATIVE CHRONOLOGY

We are now in a position to summarize our archaeological evidence for the comparative chronology of several of the mounds. At Utnūr the pottery assemblage indicates that the whole of Periods I–IV lies within the Lower Neolithic of Piklihāl. Only in Period IV does there appear to be any significant change with the absence of A3 and A3 painted wares, suggesting that this period should belong to the end of the Lower Neolithic or perhaps beginning

of the Upper Neolithic. There is however no presence of the A 4 and A 5 wares of Piklihāl, let alone the AB ware, and thus we concluded that there was nothing comparable to the Upper Neolithic of Piklihāl. Other slight variations were also recorded in the numbers of tools of the stone-blade industry, which are more common in Periods I and II and disappear altogether in Period IV (although the sample is so small that this may not be read as indicating any abandonment of the tradition). The ground-stone industry, present particularly in the form of rubbers and grinders, suggested that from Periods I C to IV they were present in roughly even quantities. Finally, an analysis of the animal remains, particularly bones of cattle, suggested that there was a steady increase in the numbers of beasts present of a markedly smaller breed. This tendency was only checked in Period III where the numbers fell to the level of Period I B. It was noticed that certain new structural features present in the former period might indicate some new elements at the site at that time.

The picture at other mounds is somewhat different. At Kudatini, layer (5) included a sherd of A 1 rusticated ware and other wares which resembled more Brahmagiri I B (or less directly the Upper Neolithic of Piklihāl). This was also true for Layer 2 which produced a few sherds of what we reported as (above, p. 57) a definitely Upper Neolithic character. Coming above so many feet of ash, it is perfectly reasonable that this should be the case. Thus here we conclude that the mound extended its life from an early (? Lower Neolithic) date right through to the Upper Neolithic. A number of sherds from Munn's collection at Gaudūr suggested that that too in its later phases may have coincided with the end of the Neolithic period, but this evidence is admittedly vague. The presence of spouts of A 2 ware at both Lingadahalli and Sanavāspur should also mean that they flourished during the Upper Neolithic, at least in some part. Thus we see that the ashmounds do not belong wholly to either the Lower or Upper Neolithic but rather extend through them. This should provide a useful time-scale, if it is viewed in apposition to the radio-carbon date from an early level of Utnūr, as on the sort of chronology we proposed at Piklihāl the total period of the ashmounds would be from about 2000 B.C. to about 750 B.C., or some 1250 years. This sort of figure appears reasonable in the light of our relative chronology at the several sites.

CHAPTER 10

THE HISTORICAL SIGNIFICANCE OF THE ASHMOUNDS

1. THE CULTURAL CONTEXT

The cultural context of the Deccan ashmounds is that of the Neolithic culture of South India. I have attempted to analyse the human implications of this evidence in the concluding chapter of the *Piklihāl Excavations*[1] and it is mainly on this source that I shall now draw. As regards the wider aspects of the culture I shall also use extensive field-notes of observations at many sites in Raichūr, Bellary and adjoining districts, as yet mainly unpublished, but to be published in a subsequent volume. As far as possible this chapter will be kept on the interpretative level, and reference will be made, where necessary, to the earlier statements of fact from which the interpretations arise.

Whatever the ultimate picture may be, in 1960 it appears that during the life of the Indus civilization trading and other culture contacts were established with settled communities peripheral to the Indus valley. The evidence for such communities to the west in Baluchistan has long been recognized, but the existence of others to the east and south-east has only lately come into prominence. The continuing excavations at Lothal appear to indicate a trading station having contact with local Chalcolithic people whose pottery was of a quite different tradition from that of Mohenjo-daro. Again, the Indus seals, etc., at Rupar and more recently at Alamgirpur suggest contacts of one kind and another with Harappan settlements. The possibility that certain objects from the Deccan represent a less direct contact with the Indus civilization has been discussed by us in *Piklihāl*. Here it may be seen as associated with a spread or movement of pastoral peoples southwards through the western Deccan. There are several elements which confuse the picture at present, particularly the uncertainty of what, if any, Chalcolithic culture was established in Malwa during Harappan times, and uncertainty about the early dates of settlement in Mahārāshtra, but these no doubt will soon emerge from the rapid current of fresh researches. Our view is that the earlier settlements in Mahārāshtra may be found to have more in common with those of the Lower Neolithic of Karnātaka, while the Upper Neolithic shows clear evidence of the influence of, if not culture

[1] Pp. 129–36.

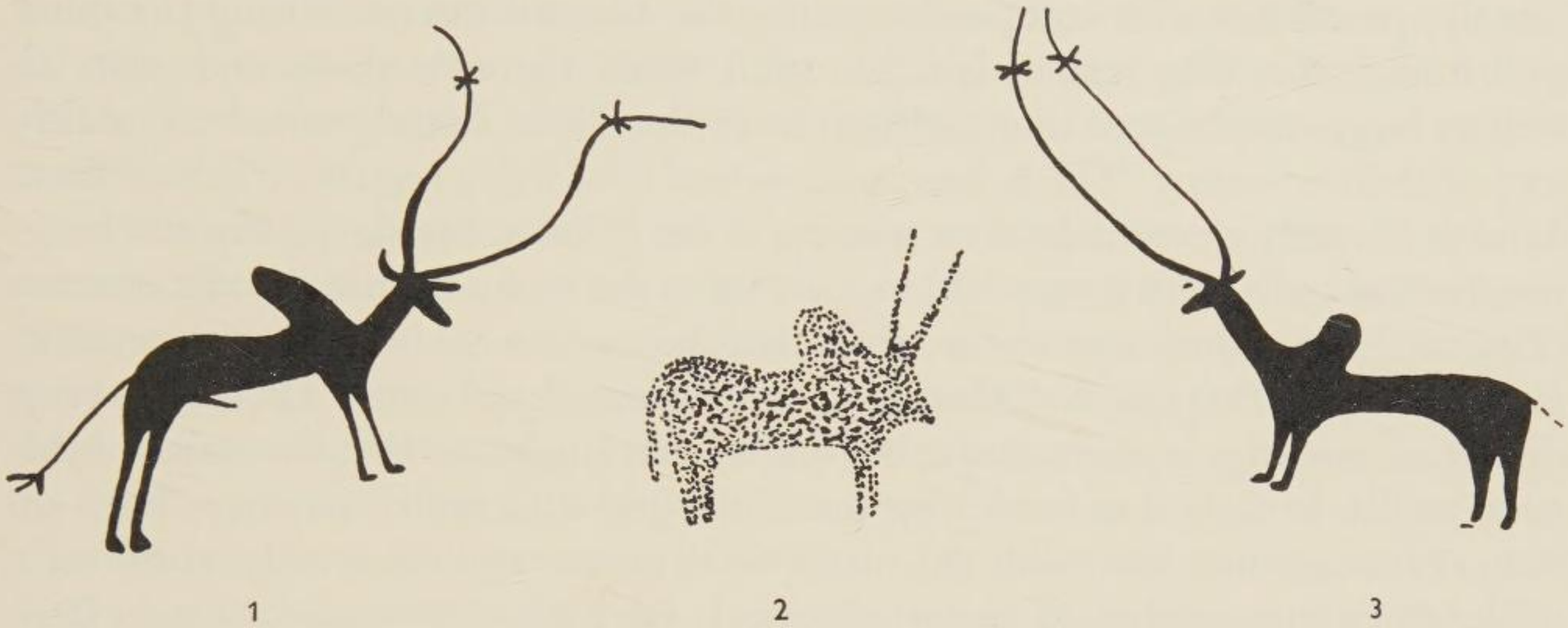
contact with, Mahārāshtra, as that region now becomes known from excavations at Jorwe, Bahal, Daimabad and Nevasa.

We have seen (above in chapter 3) that at Utnūr the pottery does not include any of those features which at Piklihāl characterized the Upper Neolithic. It thus appears as if, at this site certainly and by implication also at others, we have an early, Lower Neolithic level. This is borne out by the radio-carbon date which places the origin of the Utnūr site in the third millennium B.C. Thus, the question of origins of the South Indian Neolithic which concerned us at Piklihāl must remain before our eyes. Suffice it to say here that the Utnūr mound clearly belongs to the Lower Neolithic, and thus the ashmound practice may also be associated with that period. That it survived into the Upper Neolithic is now reasonably certain, for the finds listed above (in chapter 5) contain objects which are limited to or even characteristic of the Upper Neolithic. But the suggestion is that the ashmound practice became extinct during the Neolithic, surviving into the Upper Neolithic, but certainly not into the Iron Age. In these circumstances we must bear in mind the regions through which these first settlers in the Deccan passed and the possible cultures with which they came in contact. At the date we have established it is necessary that, if our contention that the culture originated in north-east Iran be accepted, the migrant tribes must have passed through the sphere of influence of the Indus cities, and through the areas of whatever Chalcolithic cultures flourished at that time in Saurāshtra, Mahārāshtra, etc. The presence of pottery which is reminiscent of that of the Piklihāl Lower Neolithic at Lothal suggests the possibility that this movement may itself have been linked with the first settled food-producing communities in these areas, but in Mahārāshtra and Mālwa, where shortly after (as evidenced by excavations at Nagda, Maheshwar and Nevasa) another pottery tradition was flourishing, it is quite possible that there were already established settled communities of a different cultural tradition.

In the Raichūr Doāb and Bellary these Neolithic arrivals settled at sites which reflect a very different pattern from that to be observed in the Chalcolithic settlements of Mahārāshtra. Entering the Deccan granite peneplain, with its multitude of little hills and hillocks, the tribes chose these hills for their habitation in preference to the banks of rivers or the plains.[1] On these hills there flourished vegetation denser than any since that time. The rainfall may also have been slightly higher than at present and the surrounding plains of heavy black cotton soil were probably more densely forested than in those areas where forest survives to this day. The Neolithic tribes chose for their habitations those hills which had level plateaux on their tops or shoulders. When such plateaux were

[1] Cf. Allchin, unpublished Ph.D. thesis (London, 1954), ch. 7.

not available they cleared and prepared levelled terraces of varying sizes on the slopes of the hills and around their feet. If there were caves or rock shelters available they used them, in some cases building out stone platforms to enlarge their living areas. There is as yet no evidence of any permanent structures during the Lower Neolithic age. The occupation of the hills must have called for



1 2 3

4 5 6

Fig. 22. Rock-bruised and painted bulls from sites in Raichūr district: nos. 1, 3 and 4, Piklihāl; nos. 2 and 5, Māskī; no. 6, Billamrayan Gudda.

the elimination of the wild animals which to this day haunt them, including, no doubt, the panther. It must also have called for the fencing- or hedging-off of the areas where habitation was starting, but no traces survive. In some cases, such as the Sanganakal hill north of Bellary, there are clear indications that great boulders were rolled away from the central plateau, clearing it; and that these were allowed to remain around the edges, thus forming a sort of castellation. It was this feature that Bruce Foote remarked. The material culture of these

tribes included a ground-stone industry, making axes and a variety of other tools, and a stone-blade industry making minute blades and geometrics which were no doubt used not only as simple knives and points but also hafted in composite forms as arrow-heads and as sickles or knives, perhaps also spearheads. They also possessed a tradition of making fine hand-made pottery, assisted by the turn-table. The cultural antecedents of these three industries were, however remotely, connected with comparable industries attested in Iran during the third millennium B.C. The settlers brought with them domestic sheep and goats as well as large numbers of humped Indian cattle. These latter formed the main-stay of their economy. The bones indicate that beef was a regular article of diet. Models of cattle were made in terra-cotta of the finest available quality and large numbers of bulls were drawn and bruised upon the rocks around the settlements (Fig. 22). From these remains we infer that the cattle were not only of economic importance but that they had also a magico-religious significance. There is no very definitive evidence of agriculture, but it has been suggested that the stalks of the great millet were used as fodder for the cattle, and thus millet may have been an item of human diet. Certainly the many stone querns and the greatly worn teeth of skeletons suggest that some sort of cereals were being ground for food. It is also quite possible that some of the levelled terraces with their stone retaining-walls, which appear during the Neolithic period, were used as small gardens for the cultivation of crops. Alternatively, the forests could have been cleared by slash and burn. The physical type of these peoples, as attested at Piklihāl by skeletons of the Upper Neolithic as well as Lower, was large boned, of medium stature and middle- to long-headed. They reflect an element which is found to this day among the population of South India.

2. THE ASHMOUNDS AS CATTLE-PENS

Chance has left us, in the so far unique ashmounds of Bellary and Raichūr, an utterly unexpected source of information concerning the cattle-herding of the Neolithic settlers. The ashmounds are great masses of burnt cow-dung which upon excavation reveal lines of post-holes marking ancient stockades: they are in fact the pens in which the Neolithic cattle were herded. In chapter 4 we were able to list some thirty sites which have been identified as ashmounds; at half-a-dozen further sites the distinctive 'ash' has been found re-used on graves, in some cases far removed from any known ashmound. In such instances we may infer that originally there were mounds in the vicinity, which have now disappeared. An additional indication that there were, and perhaps may still be, other sites, is afforded by place-names, which link the element 'ash', *būdi*, with

a number of villages in and around the known region of the mounds. The sizes and shapes of many of the mounds are surprisingly regular, the shapes ranging from square and oblong to roughly circular. In several cases there are pairs of mounds near to each other. The average size of the larger mounds is from 50 to 70 yards along each side. In several of the smaller there is every evidence that the site is in the last stages of dissolution and that originally it was bigger; and we may infer that the average size was of this order. In the case of three mounds the size is much greater: at Gaudūr the original mound seems to have been oblong, some 110 yards by 80 yards, and in other instances it cannot have been much less.

Generalizing from our excavations at Utnūr, we may infer that the other ash-mounds also represent the sites of Neolithic cattle-pens. There are indications of three slightly different types of stockade. In the earliest level a shallow ditch and bank is inferred to have been capped with a thorn fence, in the later phases there was a powerful wooden fence, and in the final stages, perhaps in association with a thorn fence, an 'ash wall' developed, first as a wall of dung, later after burning as a wall of near-vitrified ash. We may test our hypothesis by modern ethnographic observation. In many parts of India pens can be observed having the general size and shape we postulate, surrounded by fences of thorn, or of bamboo or in rarer cases of heavy timber. The photograph of a Toda pen with wooden fence, referred to above (p. 111), provides a perfect reconstruction for the Utnūr stockade. In the light of the comparison with the pens we have recorded above (pp. 109–110), we regard this part of the hypothesis as fully established.

At Utnūr it was possible to estimate the enclosed area in the different phases and to relate them to the general size of the mound. With less assurance and accuracy it is also possible to make this sort of estimation for some of the more perfectly preserved mounds, or at least to estimate on their surviving extents. We have proposed that modern traditional herding methods provide a reasonable modulus for estimating the size of herd which a given enclosed area would have accommodated. The relatively small number of sheep and goat bones at Utnūr suggested that these animals were present in small numbers only and thus need not greatly reduce our estimation of numbers of cattle. Our estimation for Utnūr varied from 540 to 650 beasts when the pen was at its smallest, to 800 when the pen was at its greatest. Applying the same modulus to the area of some of the other mounds we find that the Gaudūr pen could have accommodated from 1300 to 1600 beasts; the Wandalli pen from 1000 to 1200; and the Talmari pen a similar number. We consider that these figures are more likely to err on the side of conservatism than excess, as the action of weather and of

local agriculturalists has steadily reduced the areas of the mounds; but nevertheless the figures are quite convincing, as indications of the size of a good medium herd and of the larger herds of Neolithic cattle.

Our observations of thirty mounds also permit us to make certain statements concerning their distributions. I have not visited all of the mounds myself, and have been uncertain how to treat some of the sites quoted by Munn and others, but it is certain that they stand in two sorts of relation to the Neolithic settlements. In the first group are the sites in or near permanent settlements. Of this kind we may notice the mounds at Kupgal, and at Gadiganūr which are found at the foot of hills in the vicinity of habitational deposits producing Neolithic debris. Around the Kupgal hills there are several smaller deposits of this kind, one at the foot of Saridamma hill and another on the hill-top plateau of Sanganakal. Piklihāl provides equally convincing evidence. South of the main settlement area is that which we have confidently inferred to be the site of a mound, while on a high terrace near Site VII another smaller ash deposit is recorded. We have seen good reason to infer similar ash accumulations at the settlement of Billamrayan Gudda, and probably the Kurikuppa mound was also located at a settlement. A final example of this group comes from the unique cave settlement at Sivapur where the mound is located inside the level, rock-protected area adjoining the settlement. These then are the sites of cattle-pens either adjacent to large permanent hill villages or actually inside the settlement area. The second group includes some of the largest mounds. Its members are all located at spots which cannot be associated with any near settlement. The best-explored examples are those of Kudatini and Utnūr. Kudatini is situated on a barren pass, not far removed from a good water source, but several miles from the nearest known Neolithic settlement, and some 15 miles from the Bellary hills. Utnūr is also near a good water source, situated in open country, but many miles from any known settlement, and certainly our explorations show that no traces of a settlement have survived in the immediate vicinity of the site. The two mounds at Machanpalli are likewise in open country far from any settlement. So too are the great mounds of Gaudūr and Wandalli. In these two cases the nearest settlements are all situated more than 10 miles away. While it is possible that settlements may still be found nearer, it is also certain that there are none immediately associated with these sites. It is probable that an exhaustive survey of the mounds would reveal that about half fell into each category.

The interpretation of this distribution seems pretty certain. There is no suggestion (in associated finds, etc.) of chronological separateness, or that the two groups are the work of different tribes. The suggestion is that both are the products of a single pastoral process by a single group of tribes: that is, that the

cattle were sometimes penned at the settlement and sometimes at points far removed from the settlement, in areas which must then have been virgin forest, usually within easy reach of a permanent water supply. Such a process can find plentiful parallels among modern pastoral groups in the form of seasonal migrations. The terms used by Rivers to describe the Todas' seasonal migrations, or by Buchanan in describing those of the Gollas, exactly echo those which we must use in reconstructing this part of the Neolithic life. At certain seasons of the year the cattle were herded at the settlements, most probably during and after the monsoon when the grass near at hand was plentiful. Then as the winter advanced and the grazing became scarce the great majority of the cattle would be driven away to a forest grazing station, or perhaps as with the Todas to a series of such stations where the grass would be more plentiful during the dry weather. These forest pens would be in country which was full of wild animals, and if the cattle were not to suffer from their attacks it would be essential that from dusk to dawn they should be herded into the pens. This very reason is given by nearly all the pastoral groups today in explaining their night herding. When dawn came the young men would drive out the herds to graze in the forests. What would have been the human accommodation at such a cattle station? Clearly security from wild beasts was as necessary a prerequisite for men as for beasts, and thus within a single fence, of thorn or better of timber, men and beasts would both seek their rest. Again we are reminded of Buchanan's account of the Gollas' cattle-pens. There is at Utnūr a further refinement of this picture. There appears to have been through much of the life of the pen a double stockade. The space enclosed between the inner and outer fences was thick with the occupation debris of men, while inside the floors bore the prints of cattle hoofs and the accumulation of their dung, but very few traces of human occupation. Here, then, the men seem to have reserved a secure part of the pen for their own use. Further light subdivisions within the pen were probably the folds for calves, sheep and goats, as we have noticed in several of the modern forest pens. The comparative poverty of material remains—stone or pottery—further suggests the temporary nature of the forest pen. The fine stone tools found at a permanent settlement such as Sanganakal or Piklihāl are absent. The pottery is also coarser than that from the settlements, and the range of forms is much more limited. On the other hand the presence of an infant burial below the inner stockade of an early period at Utnūr indicates that women as well as men went on these expeditions, in contrast to the Gollas, who left the women in the permanent settlement. Elsewhere we have supposed that the manufacture of pottery in the South Indian Neolithic culture was a female occupation.[1]

[1] Allchin, 'Poor men's *Thālīs*', *BSOAS*, XXII (1959), pp. 251–2.

If so it would have gone on even in the forests, although the main potting could still clearly be that of the permanent settlements. The collection of raw materials for the stone industries, however, indicates a greater degree of specialization and it is probable that in the forest stations the men would have been cut off from new supplies and tools. Hence the very rough nature of the tools found at Utnūr, many of which were made of the local, unsatisfactory schist.

Inside the pen the cattle would be herded from dusk to dawn. They would leave their droppings on the floor. It is evident that there was no good purpose, either agricultural or domestic, for which the dung should have been collected and used. There was evidently a plentiful supply of wood for fires, perhaps little or no cultivation went on in such stations and perhaps if it did dung was not used to fertilize the fields. There would certainly not be the demands for dung as fuel for the potters of the towns. Thus the dung was allowed to accumulate in the pen, just as it does to this day in the 'waist deep' litter of the Badagas pens, and for a season in the breeders' pens in the Vindhyas. We may estimate how long it would take to accumulate a foot of dung over the surface of the pen, allowing for the daytime grazing and the nocturnal penning. We may also note the depths accumulated in the pens we observed in the Vindhyas, and their probable durations. These things will be pointers to the duration of the accumulations in the Neolithic pens.

The life of the cattle stations reflects closely the conditions we have recorded in the modern pastoral groups. It recalls also the descriptions of the villages of the pastoralists which occur in the *Pattu-pāṭṭu*. The two quite independent sources for comparison encourage us to think that our reconstruction of the Neolithic cattle migrations and the life of the cattle-pens is accurate and truthful. Indeed, there does not seem to be any reason to dispute our reconstruction. Thus far, too, we are guided by the folk memory and tradition which associates the mounds with the places where cattle were herded at night in the old times and where fires were burnt to ward off the wild beasts. This folk memory appears in the light of our reconstruction to be remarkably accurate and concordant with the other categories of evidence. However, as we proceed farther the way becomes yet more obscure and difficult.

Before we advance, one more topic arising from the distribution of the mounds deserves attention. It has been asserted that some connection existed between the mounds and the ancient working of gold. We have effectively disposed of this argument in an earlier section (pp. 82ff.), but now another, even more forceful, argument presents itself. Of the thirty-odd mounds we have considered, perhaps only the two at Gaudūr and Wandalli lie on or by the ancient gold-workings. Thus the connection seems to fall to the ground. A quite

different question is raised by the finds of many large worn rubbing-stones at the latter site. If, as is quite possible, further exploration could establish that this unusual number of stones comes from stratified deposits in the mound, then it might legitimately be asked whether these did not signify that gold was being worked concurrently with the period of ash accumulation, that is to say even as early as the Neolithic period. Such a conclusion would be in no way impossible, and it would raise many interesting implications.

3. THE ASH FIRES

It may reasonably be assumed that throughout the world the spread of cattle-keeping would have been associated with somewhat similar herding routines, and that wherever dryness of climate combined with forests infested with predatory beasts a similar sort of forest pen would have been brought into use. In most instances, however, such forest pens would have been but transitory things and would have left no traces upon the face of the earth: thus their very existence would be unknown to archaeology. This is true also of the cattle-pens of South India, of which we know nothing from Iron Age times, apart from occasional references in early Tamil sources, and would be true also of the Neolithic cattle-pens had it not been for a salient fact, that they were converted into ashmounds and thus preserved. Up to this point in our historical reconstruction we have considered the ashmounds only in their role of cattle-pens. Now we must turn to their transformation to ash and hence their preservation.

Our excavations at Utnūr have established that the life of the site constituted a series of more or less identical cycles: of levelling, of cattle occupation and associated dung accumulation, and finally of burning and ash creation. We have established, beyond doubt, that the dung was burnt *in situ*, and that it was burnt as a part of these cycles and not on only one occasion. There are, too, indications of variations in the nature of the fires. Shadowy evidence exists of a number of burnings which must have been comparatively small and localized, while others were of much greater proportions, consuming the dung deposited in a stratum of well over a foot in thickness over the entire area of the pen. With these burnings the destruction of the stockade and the subsequent levelling of the site are associated. The last burning was different again from the earlier fires. The main accumulations of dung seem to have been banked around the perimeter of the mound, as by that time it was, and fired in that position. The better access of air which this permitted caused a relatively greater heat and fusion than in the earlier levels at this site, and the result was a sort of vitrified wall, turning the 'ashmound' into what Bruce Foote called a 'cinder camp'.

Examination of the other sites provides ample indications of a comparable cyclic life, with similar periods of accumulation, burning and levelling. At only three sites have sections been exposed, either by excavation or some other cause, and recorded, but in each case the results are similar. At Kupgal 1 mound and at Gaudūr there were definite alternations of strata of ash and of darker soil. In the former case the natural soil was also reached. At Kudatini the great cutting made by the road workers and the Public Works Department has exposed a section right through the great mound. The result has been analysed with some care (above, p. 55) and our principal conclusions have been already stated. Broadly, here as at Utnūr, there are some six or seven main periods of accumulation and burning with associated levellings, but whereas at Utnūr the strata of ash never exceeded 2 ft., at Kudatini they are sometimes three times this depth. Without excavation it is not possible to be precise, but the impression which these great deposits give is of single vast burnings, rather than of many small burnings. Yet within one of these strata it is also possible to discern smaller level deposits, which we consider provide indications of the rate of deposition of the dung, perhaps as annual accretions. Another feature which is quantitatively different from Utnūr is the relatively smaller amounts of levelling between ash layers. Only in the upper strata of the exposed section (still several feet from the top of the mound) were there thicker deposits of mixed occupation debris. This debris was still Neolithic, but it indicates some shift in the emphasis of the occupation at that time and the movement of human settlers, however temporary, on to the higher parts of the mound. The complete absence of any occupation debris in the lower levels, of which a considerable area is exposed, must indicate that in that time the human occupation was elsewhere, probably in an outer zone as at Utnūr, and thus that the mound as it survives is not so great as it once was. In its present form, excluding the great cut made by the road makers, the Kudatini mound has a capacity of some 200,000 cu.ft., and this is almost entirely composed of ash in various stages of vitrification. We have also discussed (above, p. 156) the difficult evidence relating to the length of time needed to deposit the dung from which such ash could derive. The number of variable factors is so great that we were unable to reach any very precise formulation, but we conclude that to obtain a deposit of dried dung of between 6 in. and 1 ft. would probably be the work of a single season, allowing for daily grazing in the forest. The reduction of this deposit to only slightly vitrified ash would not greatly reduce the volume, but to reduce it to a vitreous state would reduce the volume by an unpredictable amount. A fair estimate may be that from 3 in. to 6 in. of non-vitrified ash results from a year's deposit of dung, but we must again stress that this is absolutely hypothetical. Using this as a basis

and bearing in mind the high degree of vitrification through much of the Kudatini mound we may not be far wrong in regarding its 25-odd feet as representing the dung deposits of somewhat more than a century, but not necessarily more than two. There appear to be considerable differences in the intervals between the burnings, as evidenced by the strata at Utnūr and the other sites. In some cases the interval must have been quite short, in others it must have been much longer. At the moment there does not seem to be any sure way of calculating these figures, and we must leave consideration until better evidence is available. We shall have more to say concerning the probabilities below.

The picture which emerges from this evidence is of the cattle-pens steadily accumulating depths of trampled dung within their surrounding pales and then at certain times being set on fire. The fires would involve considerable heat and in the process the dung would either turn to a powdery ash or fuse, creating at greatest heat a glassy slag. The temperature range involved has been seen to be quite moderate (p. 85). It is apparent that any wooden structures, huts or fences which remained at the time of burning would likewise be consumed. We are unable to estimate the duration of such a fire, but to consume the entire dung deposit in one of the burning levels at Utnūr or Kudatini must have been a lengthy process. Also the site must have remained hot for a considerable period after the burning was complete. In some cases the burnt-out mound appears to have been left desolate for a considerable time, long enough for a deposit of wind-sorted sand to accumulate; in other cases it seems to have been reoccupied by men who remembered clearly its former plan and who levelled the site with soil before they reconstructed the stockades on almost the same lines as in the previous structure. Thus these intervals may be inferred to have been of a reasonably short duration.

It is tempting to see in the history of the ash formation at Utnūr some sort of indication of the generalized history of the ashmounds. In the earliest levels there do not seem to have been any very solid stockades nor any very large-scale burnings. Then the idea appears of the use of a solid timber fence. At the same time the scale of the dung accumulations and burnings increases. Finally, in the last stage, the wooden fence is replaced by a low earth bank with thorn hedge upon which the heaping of a solid rampart of dung is associated with a special sort of burning and the creation of a 'cinder camp'. We may legitimately wonder whether the construction of the dung rampart and its conversion to one of hard vitrified ash was not concurrent with a drying-up of the sources of timber. We recall the Toda story of the stone-walled pen made by the gods depositing dried dung which later turned to stone. This legend could well originate from such burnings. Again, what would have been the final process,

once the ramparts had been built to a convenient height? Does this not indicate that once the cinder-camp stage was reached, either the site ceased to be used as a cattle-pen, or else the dung began to be used for some other purpose? It is tempting to see in the cinder camps, then, the final stage in the life-cycle of the ashmounds. Whether this in turn would argue for the priority of the simple mounds we cannot say. Another consideration is that the cinder-camp stage at Utnūr, and probably at the other sites of this class, would have had an internal area somewhat smaller than that of the earlier wooden pens. Would this indicate any sort of reduction in the cattle population? This again we cannot say.

The absolute chronology of all this is also not very sure. The radio-carbon date of about 2160 B.C. provides some sort of indication for the first appearance of the Utnūr cattle-pen. The cross-dating evidence from Iran for the pottery of the Lower Neolithic, as I showed in my Piklihāl report, was quite agreeable with this sort of a date for the origin of the Deccan Neolithic culture. The Utnūr mound, as we have seen, belongs mainly to the Lower Neolithic. For the other mounds the evidence is less clear, and some belong also if not entirely to the Upper Neolithic. But at least it is clear that the ash-accumulation process at Utnūr, and any other sites on which we have evidence, was complete before the beginning of the Iron Age. Whether this means that the mounds were then already abandoned or whether it merely indicates an end of the ash transformation we cannot tell. There are certainly suggestions at Utnūr that already during the Iron Age the mound was being pitted by burrowing animals, probably porcupines, and in some of these burrows fragments of black-and-red B 1 ware were found. Finally, during the opening centuries of the Christian era several small settlements, probably farmsteads, appeared in the neighbouring country, and one was located close beside the Utnūr mound. The presence of the pottery pit and of odd trenches and post-holes of this date suggests that the mound was then no longer used as a cattle-pen. The presence of ash on stone circle graves of the Iron Age elsewhere in the Raichūr Doāb, and the presence of a great stone circle on top of an ashmound in the Gulbarga district, all tend to show that the mounds were already complete by the beginning of the Iron Age, and thus support the general chronology supplied by the objects from the mounds.

This tentative sketch of the generalized history of the ashmounds leads us to one last observation. If we assume that the climate was not greatly different four thousand years ago, and that the Western Ghats played then as now a blanketing role causing the western Deccan to lie inside a 'rain shadow', then it is reasonable to assume that when the first Neolithic settlers moved in with their herds of cattle, sheep and goats, they found a somewhat denser scrub or woodland than is today present even in the reserved forests of the area. This

forest would supply a plentiful timber for making cattle-pens and for domestic burning. If in the succeeding centuries the herds increased they would play a part in the opening-up of the forests, the destruction of the scrub and smaller trees, and the consequent spread of arid, semi-desert conditions. At Piklihāl, following the Lower Neolithic occupation of the site, the cyclophorus species of snail (whose natural habitat was in a dense leafy scrub) disappeared. It may now be seen that the substitution of vitrified 'ash walls' and thorn hedges for timber stockades may indicate a further stage in this process, when supplies of suitably large timber near at hand became exhausted. This then should indicate the later phases of the ashmound period. Finally, the abandonment of the ash-transformation process may be taken, not as an indication of the disappearance of cattle from the land, but rather as an indication that cow-dung now started to be used for other purposes, either domestic burning, or for manure, or for other such uses. Thus the end of the ash accumulations may indicate the end of an historical phase of primary settlement and subsequent over-grazing of an area whose low rainfall made the natural cover at best precarious.

The meaning of the ash fires

Thus far we have established that the ashmounds mark the sites of Neolithic cattle-pens and that periodically the accumulated dung in the pens was burnt. The size of these conflagrations was sometimes enormous. Now there remains the most difficult problem of all, to inquire into the motives which lay behind the ash fires, into their meanings. How did the pens catch fire? And if it was as the result of intention, then why did the Neolithic cowherds ignite them? Here we recognize that we are on very dangerous ground, and must walk most warily. 'Motives', wrote Gordon Childe, 'are in fact hardly capable of genuine historical study!' And yet there are some things which we can say with greater or lesser assurance on this topic, and if—as we maintain—it is the historical reconstruction which is the proper aim of archaeology, and if we seek the ideas which lay behind the brute facts surviving as the archaeologist's record, then the effort is necessary. The net result, as we have said elsewhere, is a structure of hypotheses, each one of which can ultimately be expressed in terms of a probability. We gain assurance for our task because of the cultural controls which our ethnographic survey imposes, because of the hints which survive to this day in the traditions and minds of men, expressed in the form of actions whose original meanings have often long been forgotten. We were surprised, indeed, to find that folk memory had retained a knowledge of the ashmounds as cattle-pens, although the practice had been dead for some 3000 years, and although all memory of them had been blotted from the literary tradition of India and from the minds of

its living exponents. So too it may be with our further inquiry, which, we hope, may succeed in defining the range of possible motives behind the ashmounds.

The first question to arise is whether the fires were accidental or purposeful. The answer seems quite definite. There is evidence of repeated burnings at some thirty mounds. Had accidental ignition been responsible for one such conflagration it would be conceivable, but not for so many. Again, if the burning had been caused by some freak of nature, spontaneous combustion or the like, we should not expect to find such repetitions; or we should expect to find comparable ashmounds elsewhere in India and at later times, when cattle-pens were also used to accumulate dung in such a fashion. But as far as is known the ashmounds are a phenomenon which is found only in one province of India dating only from one period. Thus we conclude that the burnings were the result of some sort of purposeful human activity.

The number of the mounds and the frequency of the burnings also argue against the possibility that the wooden stockades were fired by raiding parties in attempts to steal the cattle of rival or warring tribal groups. The narrow distribution and the repeated reconstructions at the same sites seem to preclude this possibility; while the manner in which the stockades at Utnūr had been dismantled, at least in some instances, also suggests more leisurely and ordered preparation for burning. Had such fires become known as regular dangers, human ingenuity might be expected to have discovered some means of circumventing them, rather than reconstructing the stockades several times on the same spot in the same manner. On the other hand we must not ignore the fact that cattle-raiding is not only as old in India as the *Rigveda* and the *Mahābhārata*, but is also frequently attested in medieval inscriptions from these very parts of the Deccan. Indeed cattle-stealing is also one of the great themes in the earliest Tamil literature. According to the author of the *Tŏlkāppiyam*, ascribable to the opening century of the Christian era, the *vĕṭci* flower was especially associated with cattle-raiding and was to be worn on such occasions. Cattle-raiding is treated there as one of the several recognized forms of military activity.[1] According to a later work the *karantai* flower was likewise to be worn by warriors engaged in the recovery of stolen cattle.[2] That such raids were not merely literary fictions becomes apparent from another source. The medieval Kannaḍa and Tamil inscriptions of the Deccan abound with references to the erection of *vīragalas* or 'hero-stones' for those who perished defending their

[1] I am grateful to Dr J. R. Marr of the School of Oriental and African Studies, University of London, for permitting me to quote from his unpublished thesis 'The eight Tamil anthologies', 1958, Ph.D. thesis, London University, pp. 41–2.

[2] *Ibid.* p. 272. The work here referred to is *Purapŏruḷ Vĕṇpāmālai* ascribable to the seventh to ninth centuries A.D.

village's cattle from the attentions of thieves. These stones have a wide distribution in western and southern India. They were erected to commemorate a death that was considered in some way remarkable. Thus, on the west coast, from Bombay to the Konkan and beyond, *vīragalas* are found commemorating those who died at sea.[1] Others celebrate those who died in battle. A second series, frequently found together with the *vīragalas*, are known as *satī* stones, erected to commemorate the self-immolation of the widow of the 'hero'. But the honour of the erection of a *vīragala* is particularly reserved for those who died protecting their village herds from cattle thieves.[2] The volumes of *Epigraphia Carnatica* and the *Annual Reports of South Indian Epigraphy* abound in such records.[3] It has even been suggested that religious cults may have developed around the hero-stone and its subject.[4] From this evidence we conclude that there was an ancient tradition of cattle-stealing in South India which certainly persisted into the eleventh or twelfth century, and probably also much later.[5] But when we come to consider the relationship of this evidence to the problem of the ashmounds and their origin the matter is still problematic. None of the *vīragala* inscriptions I have seen give any hint that fire was resorted to by cattle raiders, and it must be admitted that many centuries separate both the *vīragalas* and even the earliest Tamil texts from the period of the ashmounds. The evidence is thus quite negative, and while the possibility remains, in the face of the inferential arguments quoted above we feel that the existence of a tradition of cattle-raiding, even though it may extend back to the South Indian Neolithic period, does not carry with it any necessary corollary concerning the origin of the ashmounds.

We feel equally assured in ruling out the various theories which associated the mounds with vast funerary holocausts. For there is no trace of any human bones, of which it seems something must have survived had they been for such a purpose, and the burial customs of the Neolithic people, as they have been revealed at Brahmagiri, Māski and Piklihāl involved simple inhumation, but not cremation. Likewise, we have found no evidence that the burnings were associ-

[1] Dr Moticandra, *Sārthavāha* (Patna, 1953), pp. 229–31.

[2] N. Kasturi, 'The hero stones of Mysore', *K.V.R. Aiyangar Commemoration Volume* (Mysore), 1940, p. 205.

[3] See, for example, *Epigraphia Carnatica*, vol. VII, Shimoga Tk., nos. 61–2; Shikarpur Tk., nos. 79, 83, etc.; *Annual Report of South Indian Epigraphy* (1940–1), app. B, nos. 104–6, etc. It is interesting to note in passing that the idiom 'to give hand and arm', occurring in some *satī* inscriptions for the act of *satī* by the widow, is often literally translated into stone relief upon South Indian memorial stones.

[4] See the very interesting hypothesis advanced by G. A. Deleury in the *Cult of Viṭhobā* (Poona, 1960) to account for the origin of the cult of Viṭhobā at Pandharpūr. The author proposes that one element in the history was a hero killed in a cattle raid at that place (*op. cit.* pp. 181–4, 192–8, etc.).

[5] I wish here to express my gratitude to Mr Ramesh Rao, who read this chapter in manuscript and made a number of valuable suggestions. He first drew my attention to the considerable evidence for cattle-raiding and its possible significance for the problem of the ashmounds.

ated with the mass cremation of animals. The bones which were recovered were almost all from the living areas and they were mostly cut up as if for purposes of food, just as at other permanent Neolithic settlements.

The attempts to explain the mounds in terms of some sort of industrial process are equally unsatisfactory. Even before the Neolithic context ruled out such processes as iron-smelting, Newbold had seen that no modern traditions of industry could be invoked. Others have added testimony of different kinds, including the absence of the by-products of iron- or gold-smelting, which occur elsewhere in association with their ancient working sites. The candidature of claims of brick-making, glass-making, lime-smelting, etc., has never been seriously entertained. The last ditch of this sort of explanation has been to propose some as yet unknown industrial activity. But in the light of our now extensive knowledge of the Neolithic settlements, and of the ashmounds themselves, it seems most unlikely that such products would have passed absolutely unnoticed, or have totally disappeared without trace. Thus we reject all the explanations of this kind that have so far been advanced, and regard the idea of some as yet unrecognized industrial activity as equally unsatisfactory.

We have now explored and rejected all the theories which had been advanced at the time when I was writing my thesis (1953–4). We there found reason to accept Foote's *Zariba* theory regarding the nature of the mounds as cattle-pens, but we were not able to accept his proposition that the firing of the mounds was the result of the carelessness of their builders. Foote wrote: 'These great mounds of cow-dung would be liable to take fire when dry in the hot weather and unless the fire were purposely extinguished by the people it would go on smouldering and the ashes produced would be of a scoriaceous nature. In sites that the people were attached to, the cow-dung mound building would undoubtedly be continued generation after generation and the mound would be occasionally burnt. Seeing how careless the lower classes of natives of India are about fire nowadays, it may not be too hazardous to assume that their Neolithic ancestors were equally so and that the conflagrations were not a rare occurrence.'[1] Foote himself went on to suggest a possible explanation which might involve acquiescence in the chance firings. This was to point out that 'in the black cotton soil country the formation of a layer of cinder would be useful at times for the reason that in the rainy season the surface of the cinder bed does not become an utter quagmire as does that of the black cotton soil, but keeps clean and dries rapidly'. If indeed a practical and rational explanation of the mounds is to be sought, it lies only in this direction. With the passage of time the stockades would grow old and rotten, while the accumulating dung would tend to harbour various

[1] Foote, *IPPA*, 1916, p. 94.

sorts of vermin. The climax might well be that the inner stockade rotted and fell. In addition, as Foote remarked, the cinder base raises the mounds above ground level and provides excellent drainage during the rains. Viewed in this light we agree with Foote. We would add that the burning of a cattle-pen, from this point of view, need not be a calamity, but something which served a useful purpose in preparing the site for the reconstruction of the stockades. Thus far we consider that there was a rational explanation of the mounds and a practical motive behind their burning.

But beyond this we cannot altogether follow Foote. We cannot regard the fact that the burnings were not regarded as a calamity, associated with the general carelessness of the herdsmen, as sufficient grounds to explain their existence. For just these same factors are to this day at work in cattle-pens throughout peninsular India, but they never produce effects of the kind we observe in the ashmounds. Indeed all the evidence indicates that the unique ash formation process began and ended within the life cycle of the Deccan Neolithic culture. We feel that the very number of the mounds and the very repetition of the burnings militate against such an interpretation, and thus we must seek for some other explanation. In my thesis I turned at this point to the possibility of some non-practical, religious purpose, and proposed that the Holī bonfire might contain the germ of the ash-fire rite. Having now examined the problem in greater detail and gathered together much more material, we can see that this idea may have been on the right lines.

Throughout India we have found evidence of seasonal agricultural and pastoral festivals, linked in a general manner with similar festivals throughout the Old World. These festivals have as their prime aim the insurance of fertility and continued success of the means of subsistence, and they have all employed means which we regard as magico-religious to achieve this end. Among the agriculturalists the emphasis is on the crops and the bullocks as plough beasts, upon the sowing, the rainfall and the harvests; but among those castes or groups who are primarily interested in pastoralism the emphasis is on the herds. The precise confines of one festival and another become blurred as we view the whole of India, for the seasons have different agricultural importance in different places. But three festivals in particular stand out as of prime importance for pastoral and agricultural matters, Holī, Dīvālī and Pongal. In all these festivals cattle play a part, which although it is not stressed among the main elements of the population, is nevertheless of great significance for some cowherds. Indeed it is probable that if we could record more complete accounts of the whole complex of related cattle rites throughout India, we should be able to find evidence of survivals of the ash-fire cult.

Again and again in these festivals fire and cattle are found in conjunction, almost always with the purpose of warding off disease and ensuring fertility. In numerous instances cow-dung is expressly used for the fires, and cow-dung in massive form figures in many ceremonies, either modelled as an arrow-shape or human form, or more usually in the form of a great flat cone. Such cones are not infrequently the forms given to gods and godlings, *devatās* and *yakshas*, in their country shrines, but is it not also possible that they represent in miniature form greater masses of cow-dung in the shape of ashmounds? Another aspect associated with these great festivals is their coinciding with the seasonal migrations of the pastoralists. Thus at Holī the cattle are driven through the bonfire on their way from the settlement to the grazing grounds; and among the Banjāras the Polā festival is regarded as marking the end of their settled life during the rainy season. A similar emphasis is found in the Dīvālī rites of the Mārgapālī complex, with its processions of cattle to and from the grazing grounds and the driving through bonfires. They occur again in the south among the Gollas and the Badagas at the time of Māṭṭu Pongal. Thus we find in many parts of southern and central India connections of bonfires with cattle and their movements to the grazing grounds, no less than with fertility. We frequently find too that masses of cow-dung form the focus of the rites. All this is extremely suggestive of the way in which the ash fires came to be ignited and the ashmounds formed. Although we have not found reference to the Need-fires of Europe being repeated in India, the transition from fire festival to Need-fires in time of cattle disease is so gradual a one that it remains innately possible. Again, in Europe there is no reference to the burning of cow-dung, perhaps because in the moister climate the dung could only with difficulty be dried sufficiently for such use. But the breadth of perspective which a comparison of European and Indian fire festivals affords emboldens us to reach an interpretation of the ashmounds in such terms.

We now wish to propose our hypothesis. There is sufficient practical value in the periodical burning of the cattle-pens to warrant the necessary risk in celebrating certain great seasonal festivals in them. Thus every year at the time of the seasonal migrations, which today among the Gollas are regarded as breeding-expeditions, a bonfire ceremony took place in the Neolithic cattle-pens, in much the same way as lamps are lighted in the modern cow-pens and cow-sheds at Holī and Dīvālī. Probably the ceremony involved the cattle being driven through a moderate fire of dung, lighted in the centre of the pen. Our view is that it would be regarded as auspicious, particularly when the pen was in need of reconstruction, if the resulting fire got out of control and caught the whole mass of dung. One may expect that the rite would be accompanied by other

kinds of cattle participation, decoration and processions, the choice of royal or king bulls, perhaps driving though mango ropes and the *Mārgapālī* rite, sports, etc. The *Mārgapālī* would take on a special significance if the road to be protected was that which led either away from the settlement to the forest pens or homewards again to the village. In this connection we recall Frazer's remarks upon the way in which the May and Hallow-e'en fire festivals of the Celts were accordant with the herdsman's year. Here in peninsular India the seasons of that year are necessarily different to suit the different environment and climate, and it seems likely that the season for setting out for the pastures would be at the beginning of the hot weather, coinciding with the time of the Pongal festival, and the return would be at the beginning of the rainy season.

This then we regard as the probable explanation of the ash fires. We consider that the Neolithic herdsmen, if asked, would have explained the ceremony within these terms; and that the archaeological ethnographer, if he could force his way back in time some four thousand years, would comment upon the obvious relationship between the rites and the seasonal migrations in search of grazing grounds.

Why then has the ash-rite disappeared, except for such miniature, as it were surrogate, forms as we have recorded in chapter 7? The answer to this question is also not far to seek. With the growth of population and the progressive thinning of the jungles, timber became more scarce and dung became a commodity, at first required for the household hearths, then for the fields and finally for such craft needs as the potter's kilns. With these changes the wasteful burning of the stockades was seen in a different light, and the dung itself became a commodity. Even so tradition dies hard and we have recorded how the Marathi cowherds save for weeks their saleable dung, so that they can build with it their Holī fires. And still cow-dung plays its part in the Pongal festival, both in the fire on which the Pongal milk is boiled, in the Pongal bonfire itself and, more unexpectedly, in the Piḷḷaiyār. For this presiding deity, this elephant Ganesh, remover of obstacles, is found beneath his flowery adornment to be nothing but a great mound of cow-dung. And so too, in the Dīvālī festival of the north, is Mount Govardhana (the increaser of cows). The mountain as it is made in the court-yards of the houses turns out to be no more (and no less) than a cone of cow-dung. Perhaps these two in their ways (and they are surely connected in some obscure way in the remote past) are the forgotten representatives of those mountains of cow-dung of elephantine proportions, which at the auspicious season the Neolithic cowherds lit before they left the summer grazing grounds, and later when they set out from their villages.

There is one other way in which the special sanctity of the ash fires may have

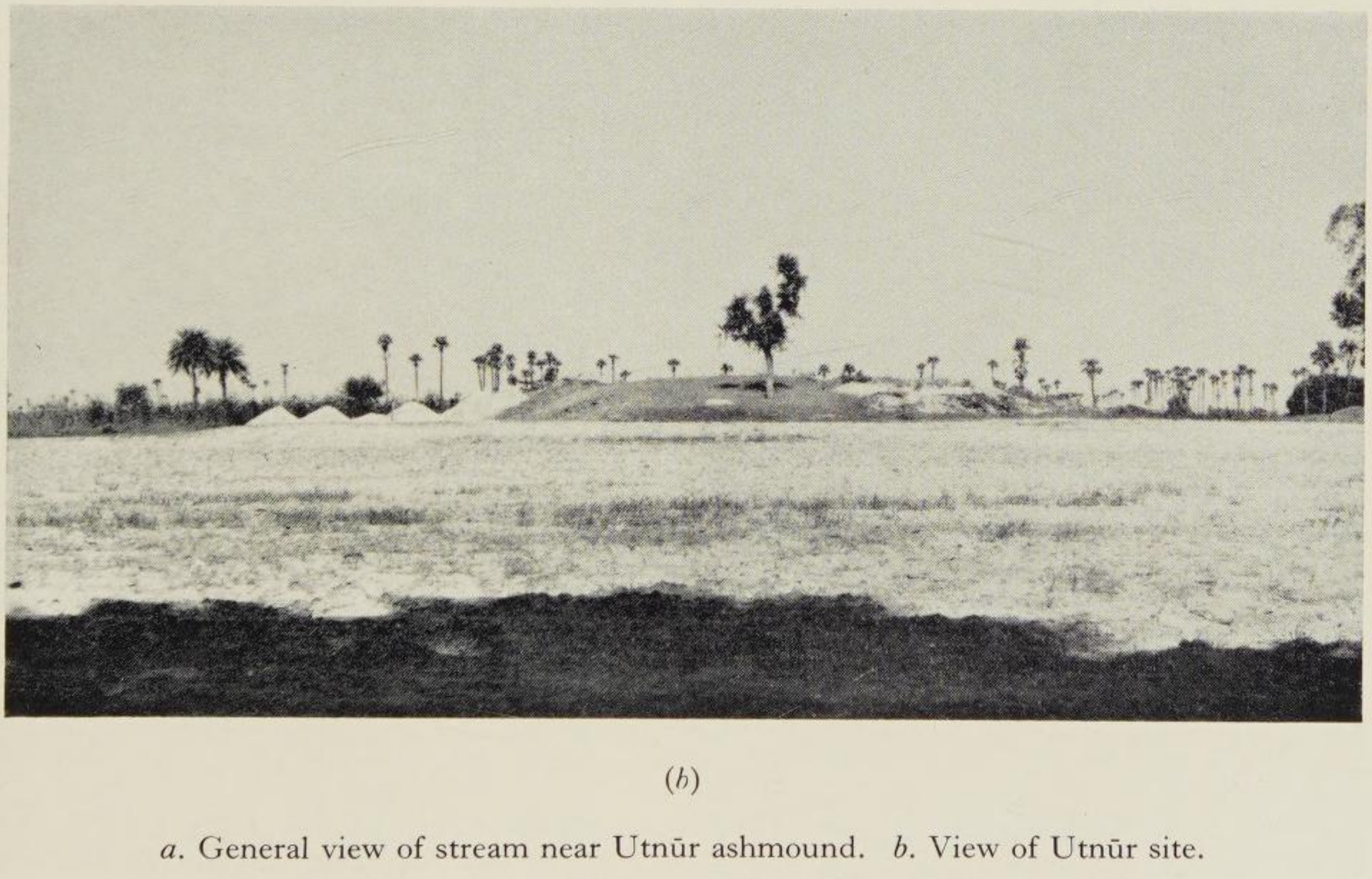
come to assume a wider significance, even though they themselves have disappeared. It is through the medium of the sacred ash *vibhūti* which as we have seen almost certainly owes its origin not to the Vedic words *bhūti* and *vibhūti*, which originally signified power and auspice (but were unconnected with ashes), but rather to the Dravidian *būdi*, signifying ash in general, and coming in the Karnataka through the ashmounds to mean cow-dung ash sanctified by the ash-fire rites. By some strange quirk of fortune this word came in the early centuries of the Christian era to achieve an all-Indian acceptance in the sense of sacred ash. The Kannada word *būdi* is, we have seen, used in place-names to signify the ashmounds. It is also used in the name of the full-moon day of Holī, *Būdi pūrnimā*. Here surely is yet another clue to the sort of occasion on which the ash fires were lighted and the massed *vibhūti* brought into existence, turning the very cow-pens into great masses of auspiciousness. Perhaps too in this way we have stumbled upon what may once (even in pre-Aryan times) have been a much more widespread part of cattle-rites, and thus through the millennia the sacred ashes of cow-dung have survived as a surrogate of the ashmound cult.

All this is mere speculation, but our hypothesis rings true in terms of the evidence: both the evidence of archaeology as we have collected it in chapters 2–5, and ethnography as it appears in chapters 6–7. It fits the facts more fully and satisfactorily than any other account we can devise, and thus we incline to accept it.

We have examined the ashmounds and the pastoral culture which they disclose from every available piece of evidence. We have attempted to discover not only the original nature of the mounds, as Neolithic cattle-pens, but also the reasons which lay behind the ash fires which converted their accumulated cow-dung into ash. When all is said and done we may ask ourselves how much has all this to contribute to our knowledge of Indian civilization? Even if our archaeological interpretation of the evidence be correct can our proposals to see certain aspects of Indian pastoral folk religion as survivals of the ash-fire cult be accepted? And if they are then how do they fit into the pattern of Indian civilization? In its more limited field our study applies to the Neolithic culture of the Deccan, itself but one of the Neolithic and Chalcolithic cultures which in Harappan and post-Harappan times spread into peninsular India, but there is also a wider meaning. However it may ultimately be found to relate to the cult of cattle throughout India, and however humble the theme may appear beside the grander flights of Indian religious thought, at least we may assert that what we have been able to reconstruct is something unique and hitherto undreamed of; and as such it adds a new and peculiarly Indian chapter to the history of human institutions.

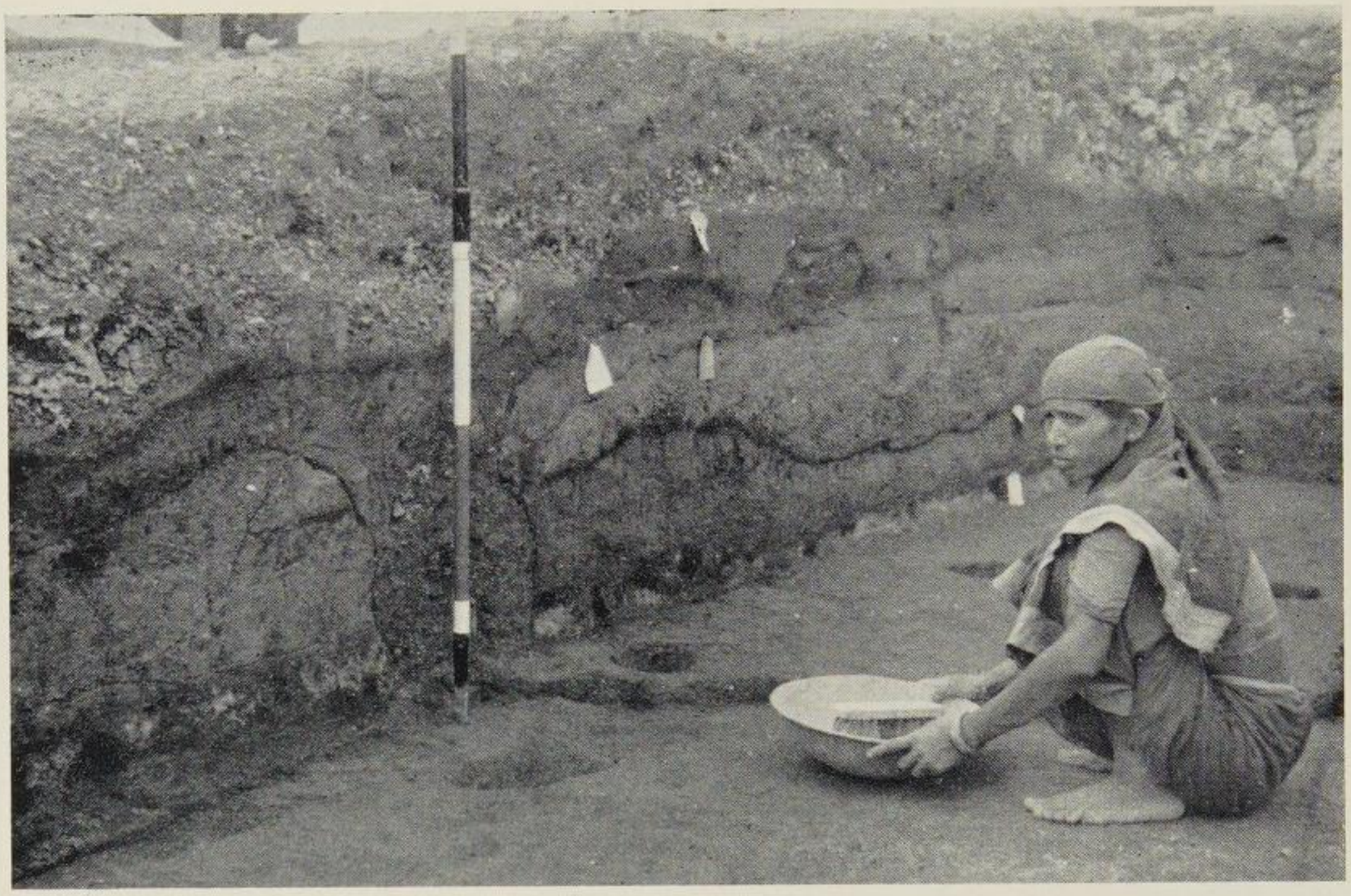
PLATES

(*a*)



(*b*)

a. General view of stream near Utnūr ashmound. *b*. View of Utnūr site.



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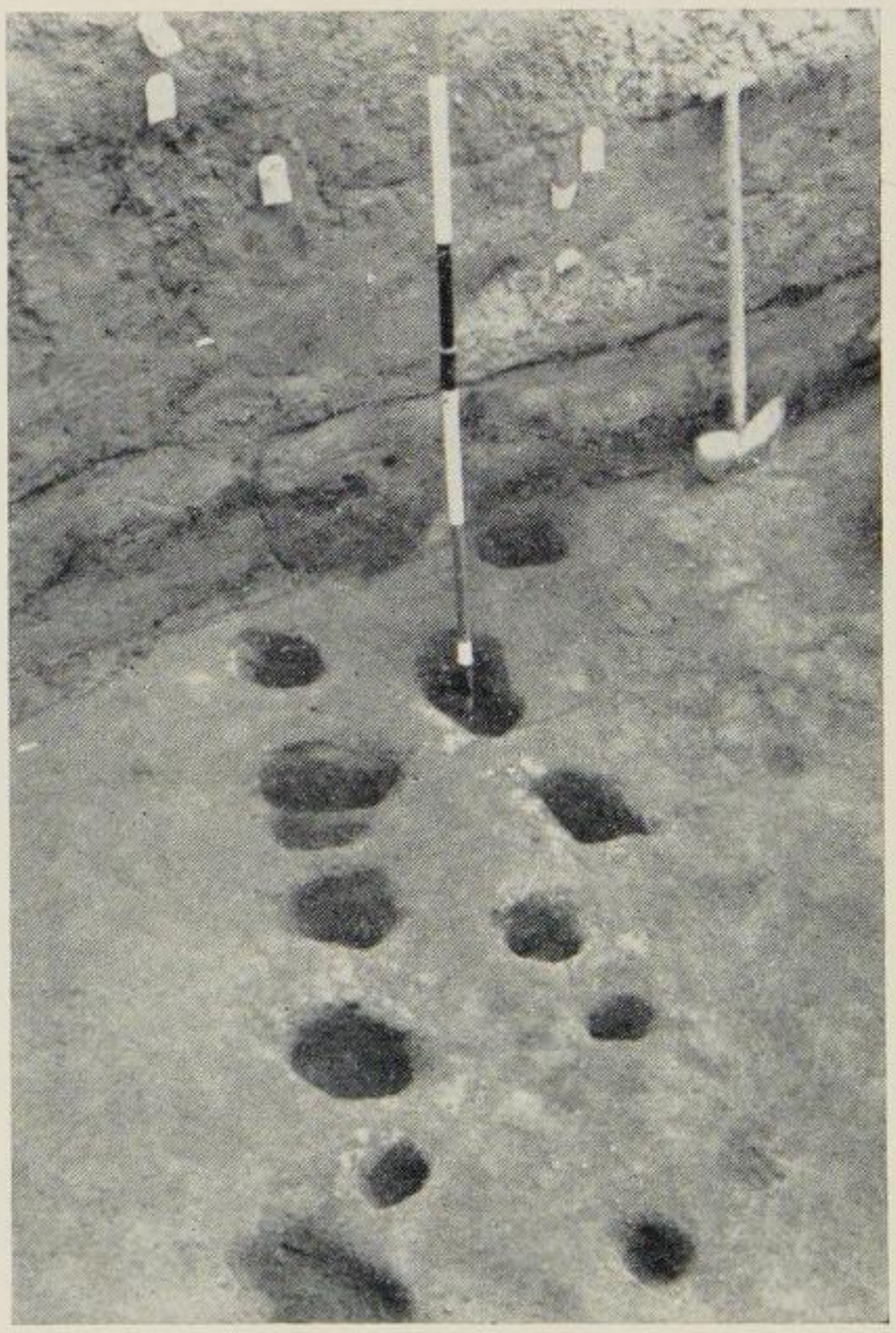
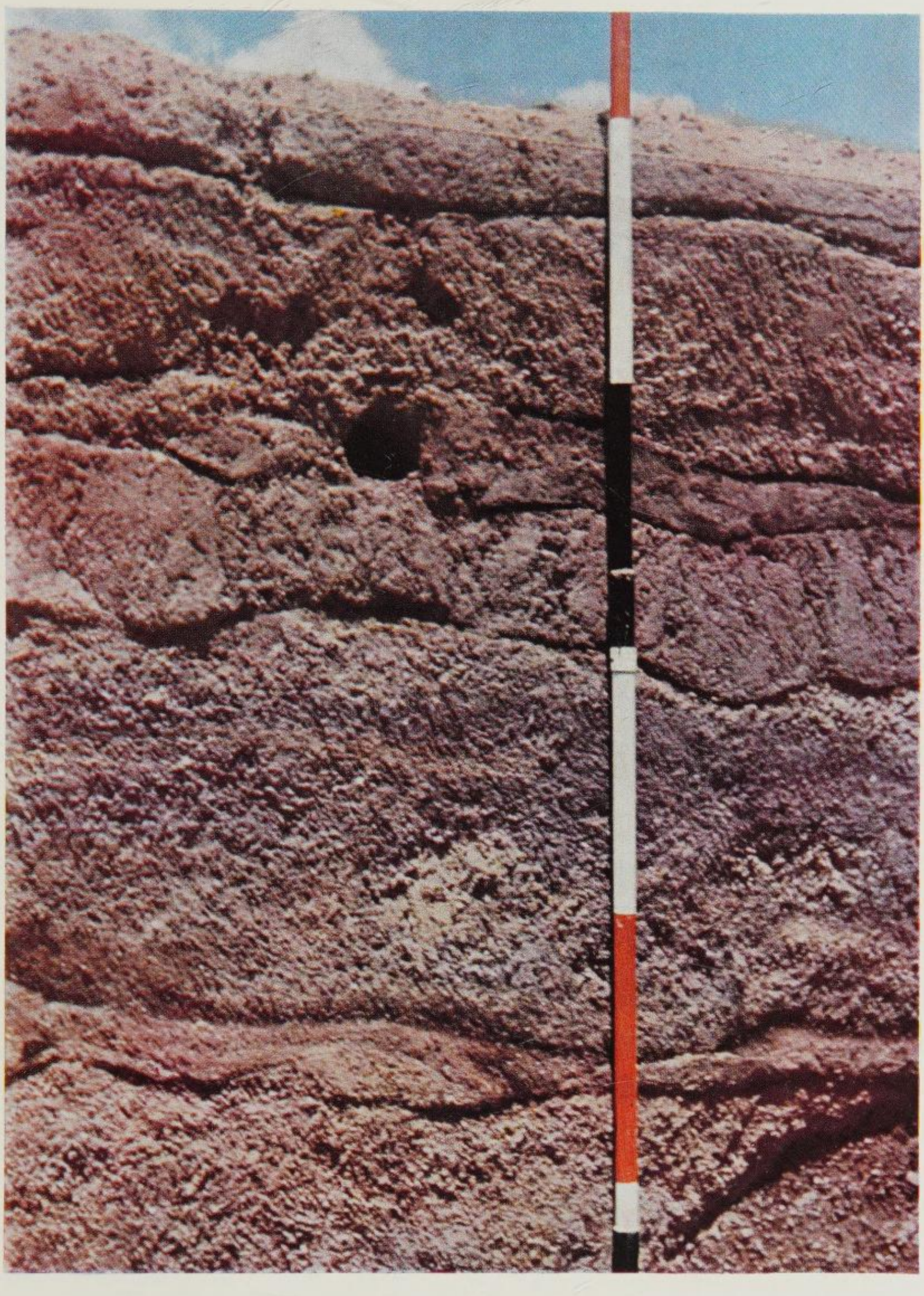


(*c*)

a. Section of post-hole trench 4, Utnūr Site I E. *b*. Post-hole trench 4 after excavation. *c*. Post-hole line 9 after excavation.

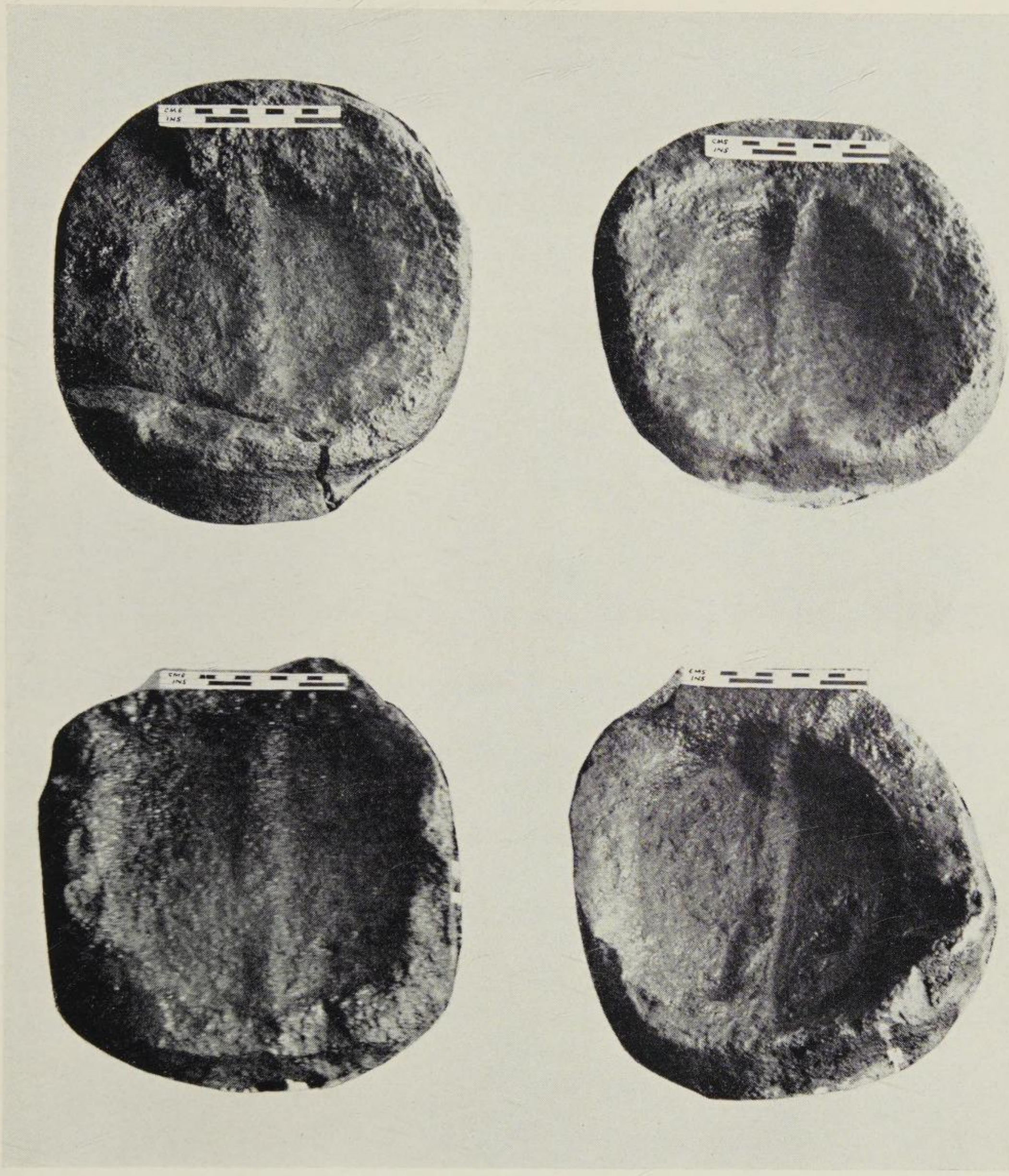


Utnūr Site II, section of ash deposits showing characteristic discoloration resulting from burning.

(*a*)

(*b*)

a. Utnūr Site II, general view of trench. *b*. Utnūr square I L, showing floor with hoof-impressions.



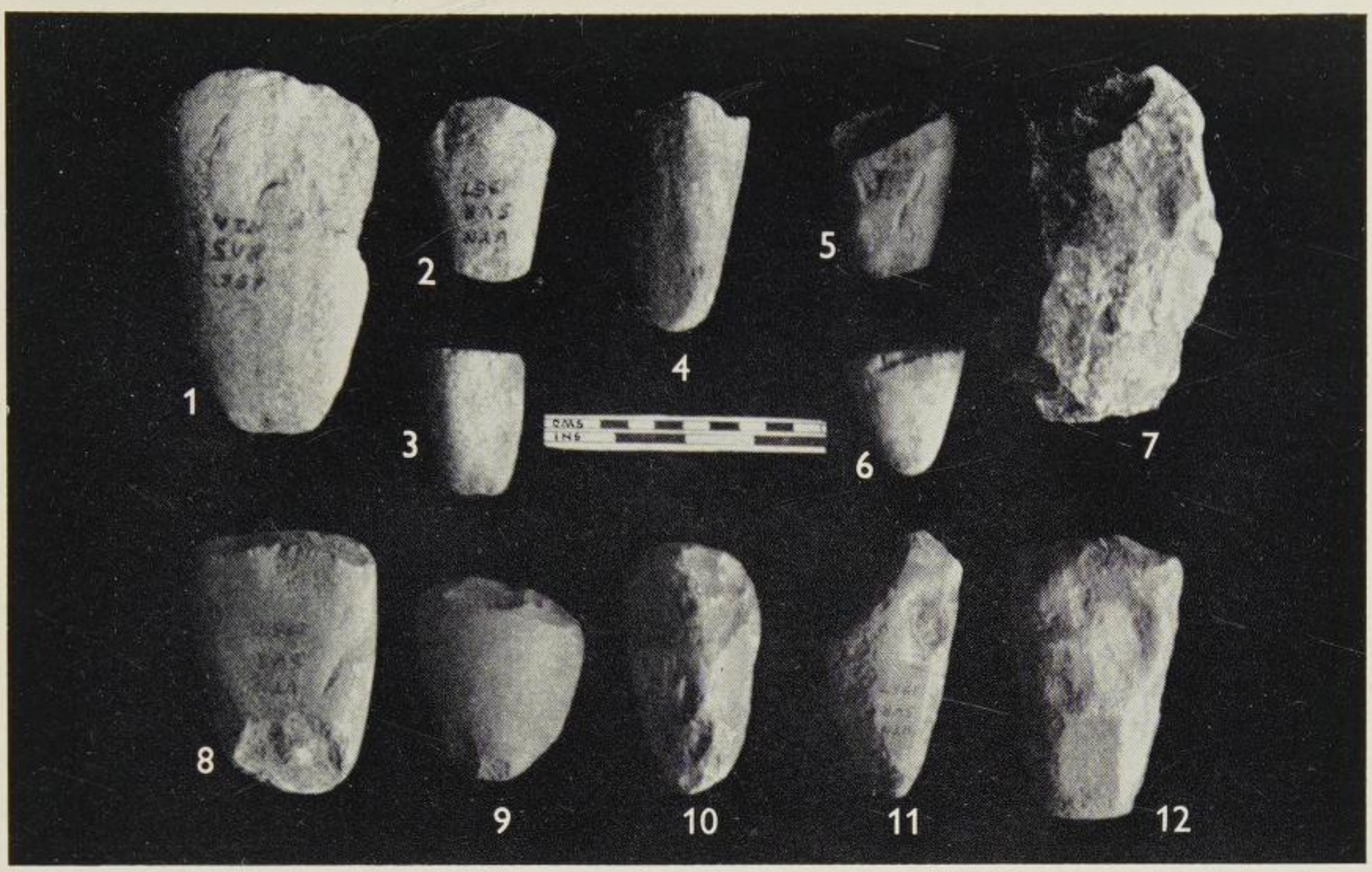
Hoof-impressions after lifting.

PLATE 6

(*a*)

(*b*)

a. Utnūr, Neolithic incised ware from excavations. *b*. Utnūr, black-and-red, B3 ware, sherd with painted rosette.



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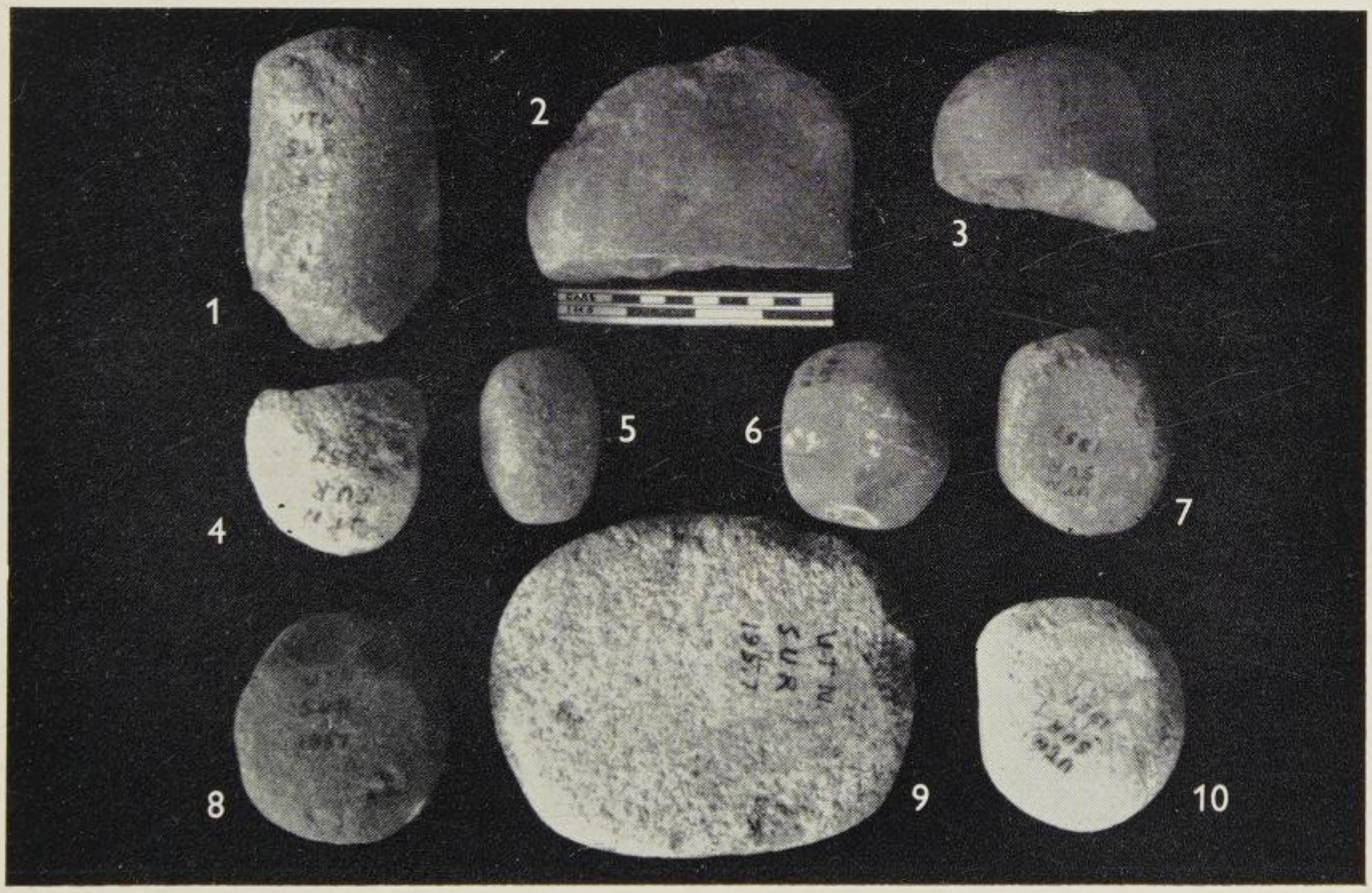
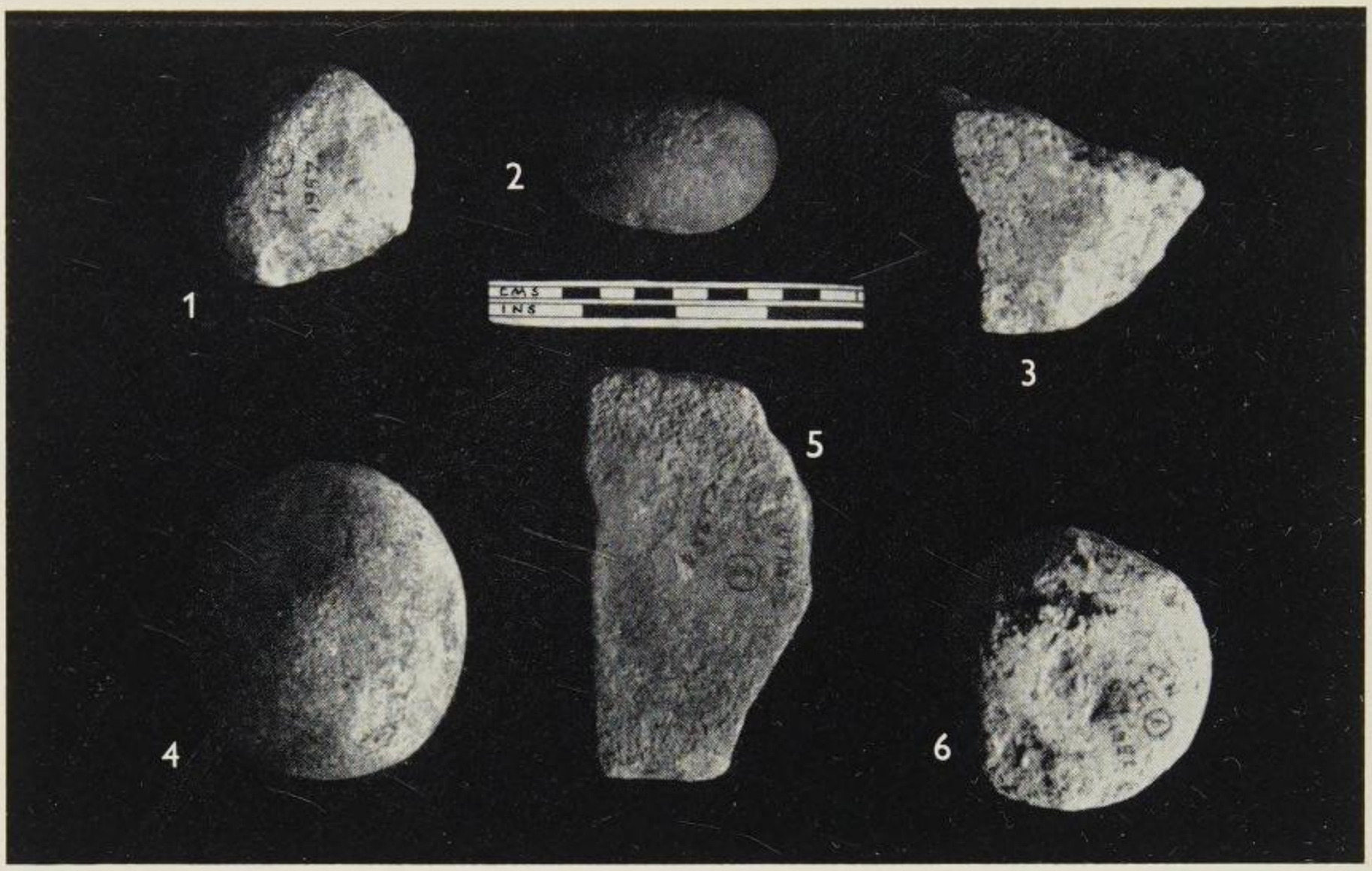


(*b*)

a. Utnūr, stone axes from surface collection. *b*. Utnūr, ground and pecked stone tools from surface collection.



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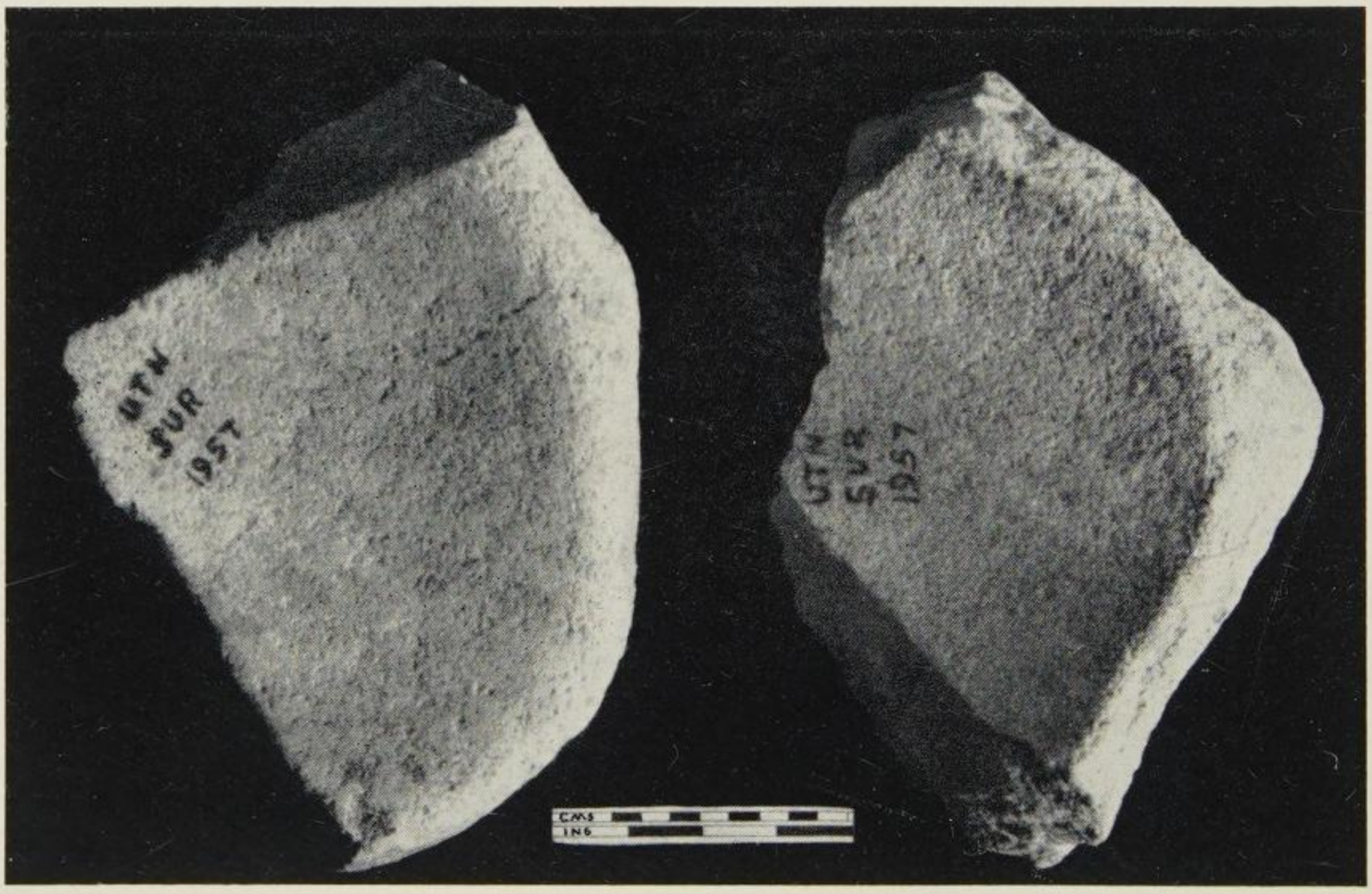


(*b*)

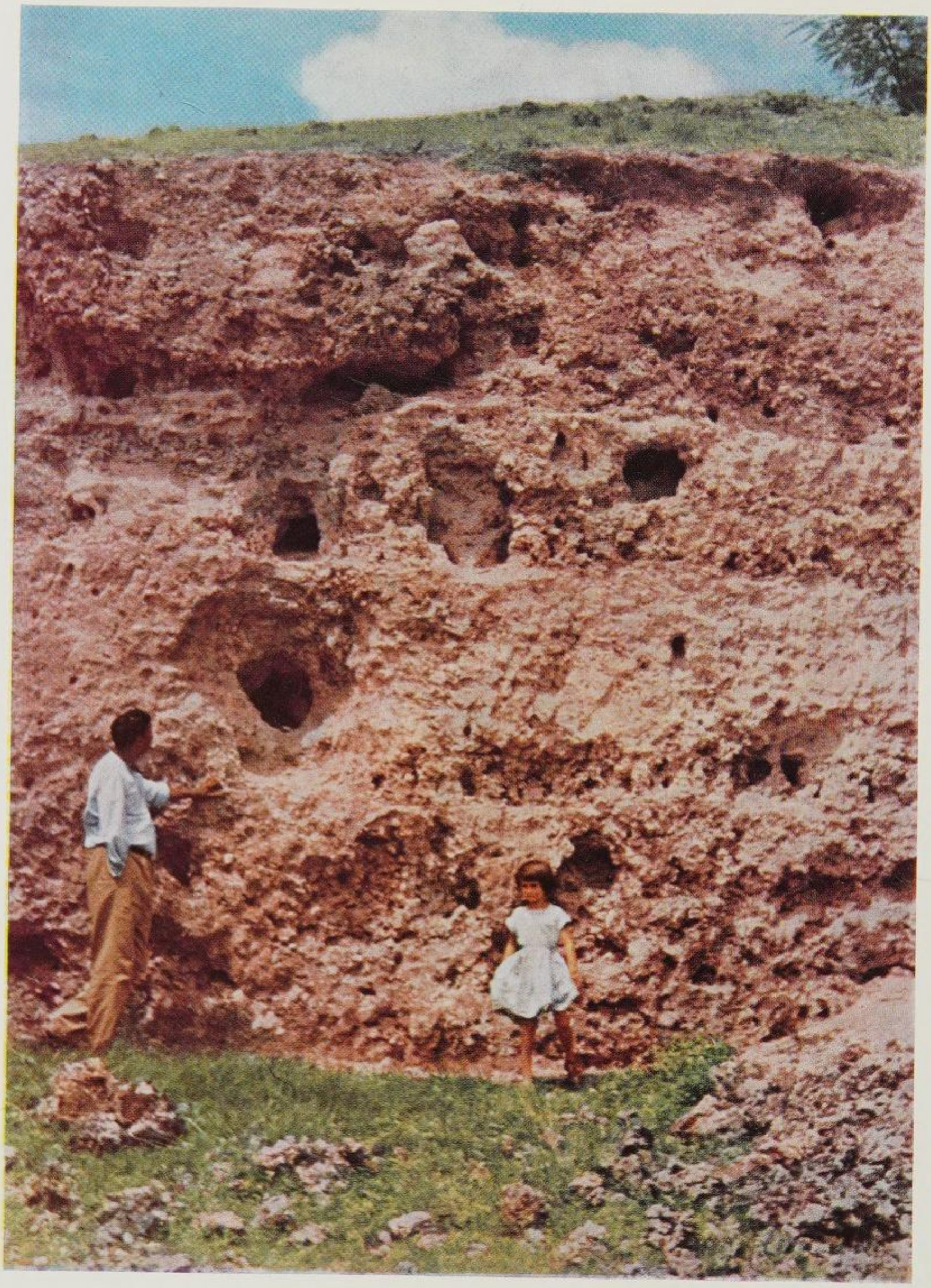
a. Utnūr, stone tools from excavations. *b*. Utnūr, stone querns from surface collection.

(*a*)

(*b*)

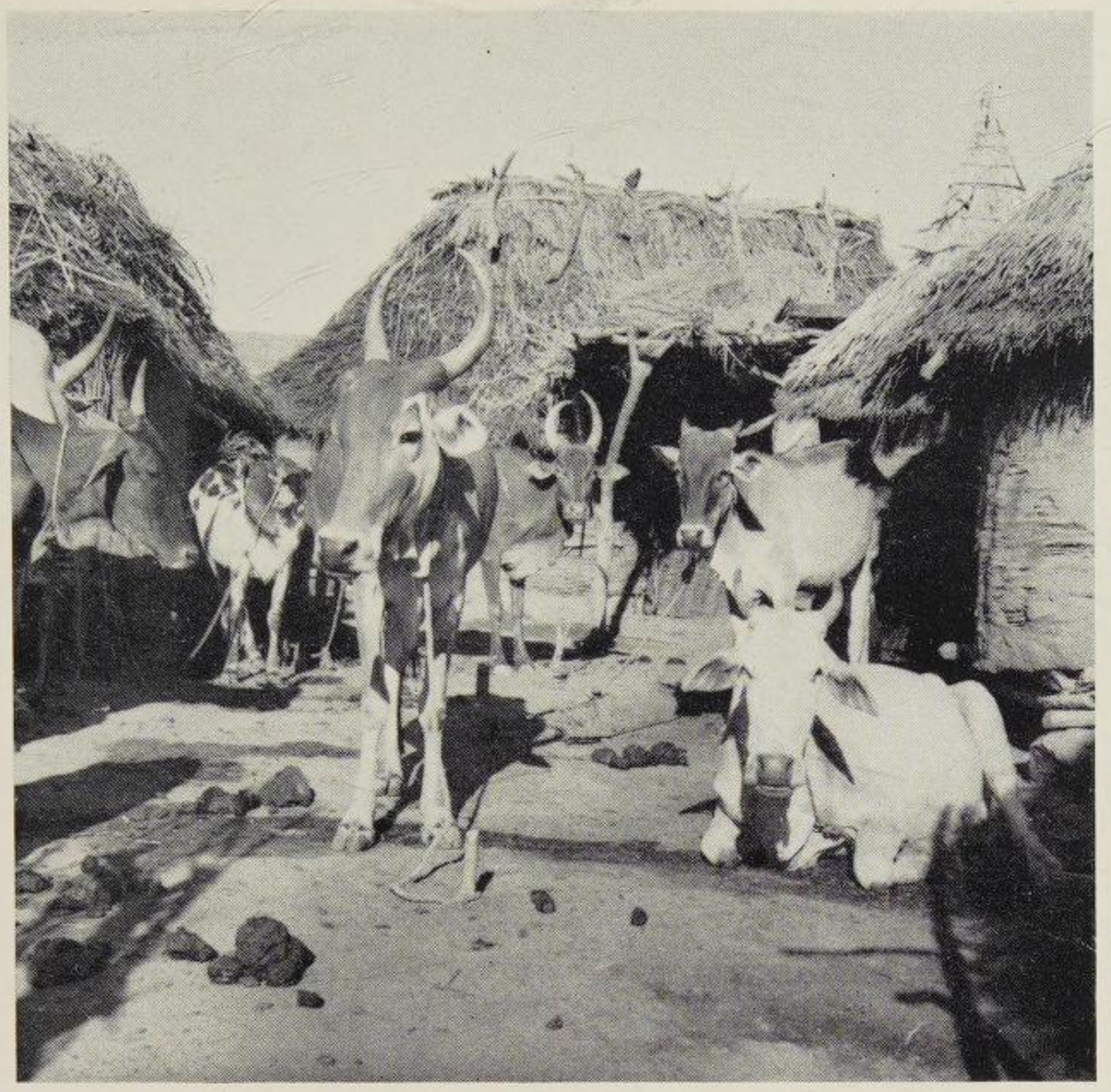
a. Wandalli ashmound (after Munn). *b*. Gaudūr ashmound, exposed section (after Munn).

PLATE 10



Exposed section of Kudatini ashmound.

PLATE II



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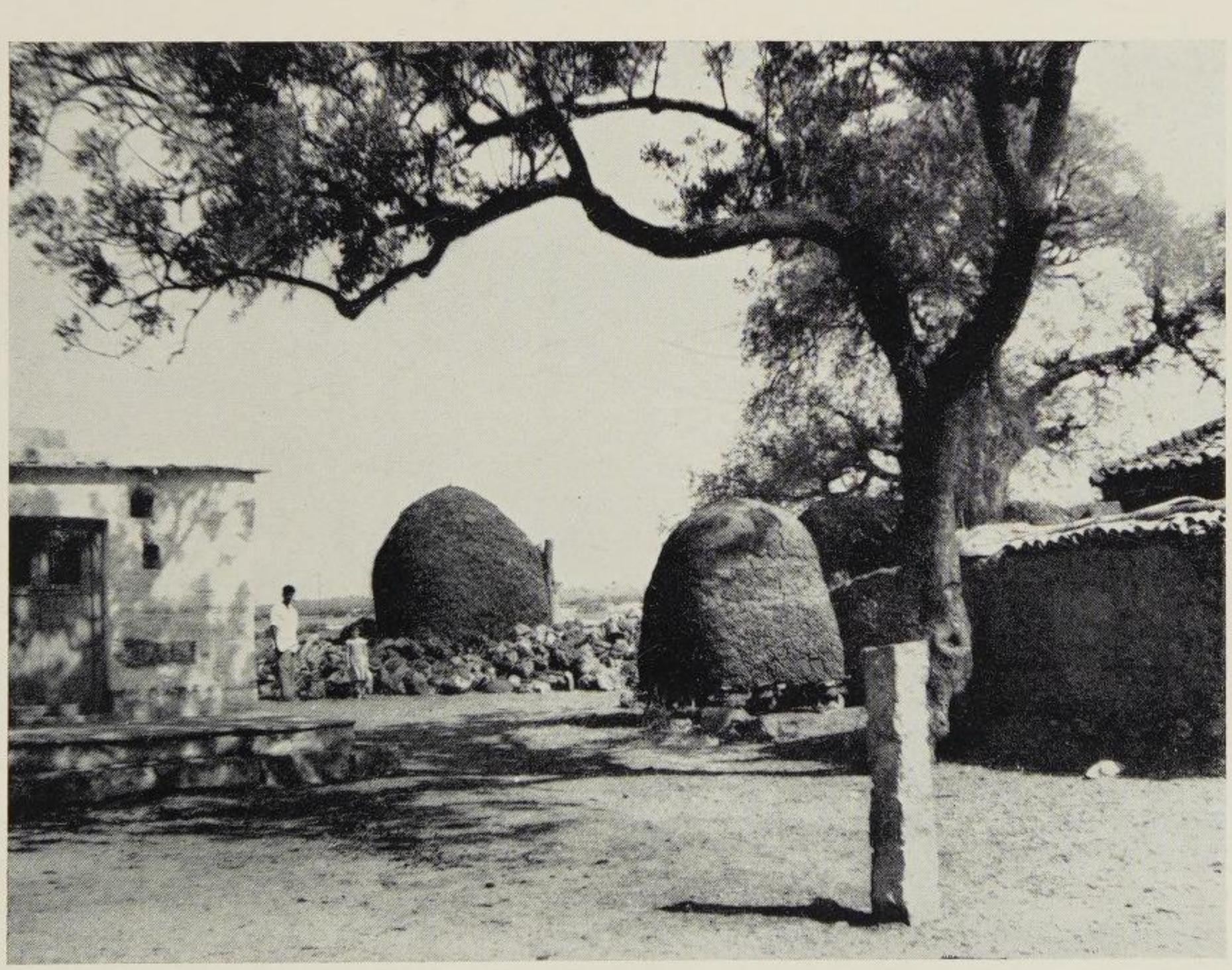

(*b*)

a. Cattle in Lambādi village near Yelleshwaram, Nalgonda district. *b*. Cow-dung stores in village of Uppal near Hyderabad.

(*a*)

(*b*)

a. Potter preparing dung for removal from forest pen near Robertsganj, Mirzapur district. *b*. Dung accumulation in cow-pens in forest near Robertsganj.

BIBLIOGRAPHY

al-Bīrūnī, *Athār-al Bāqiya* (*Chronologie orientalischer Völker von Albīrūnī*), ed. Sachau. Leipzig, 1876.

Allchin, F. R., 'The development of early cultures in the Raichūr district of Hyderabad', unpublished Ph.D. thesis for London University, 1954.

Allchin, F. R., 'Rock paintings and engravings in Raichūr, Hyderabad', *Man*, LV, no. 114, 1955.

Allchin, F. R., 'The stone alignments of Southern Hyderabad', *Man*, LVI, no. 150, 1956.

Allchin, F. R., 'The neolithic stone industry of the North Karnataka region', *Bulletin of the School of Oriental and African Studies*, XIX, no. 2, 1957.

Allchin, F. R., 'Poor men's *Thālīs*, a Deccan potter's technique', *Bulletin of the School of Oriental and African Studies*, XXII, no. 2, 1959.

Allchin, F. R., *Piklihāl Excavations*, Andhra Pradesh Archaeological Series, no. 1. Hyderabad, 1960.

Allchin, F. R., *Utnūr Excavations*, Andhra Pradesh Archaeological Series, no. 5. Hyderabad, 1961.

Allchin, F. R., 'The methods and antiquity of gold mining in ancient India', *Journal of the Economic and Social History of the Orient*, vol. V, pt. 2, 1962.

Afshar, Corbin *et al.*, *Jashn-i Sadeh* (*La fête de Sadeh*), Publications of the Society of Iranology, no. 2. Teheran, 1946.

Ananthakrishna Iyer, L. K., *Tribes and Castes of Cochin*, 2 vols. Madras, 1909.

Ananthakrishna Iyer, L. K., *Mysore Tribes and Castes*, 3 vols. Mysore, 1930.

Balsan, F., *The Sheep and the Chevrolet, a Journey through Kurdistan*. London, 1947.

Breeks, J. W., *An Account of the Primitive Tribes and Monuments of the Nilagiris*. London, 1873.

Buchanan-Hamilton, F., *Journey through Mysore, Canara and Malabar*, 2 vols. London, 1807.

Burrow, T. and Emeneau, M. B., *A Dravidian Etymological Dictionary*. Oxford, 1961.

Chelliah, J. V., *Pattu-pāṭṭu* (English translation). Colombo, 1946.

Clark, J. G. D., *Prehistoric Europe, the Economic Basis*, London, 1952.

Cole, R., 'A note on certain mounds of a scoriaceous character found near Bellary', *Madras Journal of Literature and Science*, VII. Madras, 1838.

Crooke, W., *Popular Religion and Folklore of Northern India*, 2 vols. London, 1896.

Crooke, W., *Tribes and Castes of the North-Western Provinces and Oudh*, 4 vols. Calcutta, 1896.

Crooke, W., 'Bull-baiting, bull-racing, bull-fighting', *Folklore*, XXVIII, 1917.

Deleury, G. A., *The Cult of Viṭhobā*. Poona, 1960.

Dickinson, W., *Cumbriana*. London and Whitehaven, 1875.

Dube, S. C., *Indian Village*. London, 1955.

Elwin, V., *The Muria and their Ghotul*. Bombay, 1947.

Fabri, C. L., 'The Cretan bull-grappling sport and the bull-sacrifice and the Indus valley civilization', *Annual Report of the Archaeological Survey of India, 1935–36*. New Delhi, 1937.

Fawcett, F., 'Festivals of village goddesses', *Journal of the Anthropological Society of Bombay*, II, 1890.
Foote, R. B., 'Notes on some recent Neolithic and Palaeolithic finds in South India', *Journal of the Asiatic Society of Bengal*, LVI, pt. 2, 1887.
Foote, R. B., *The Foote Collection of Indian Prehistoric and Protohistoric Antiquities: Catalogue Raisonné.* Madras, 1914.
Foote, R. B., *The Foote Collection of Indian Prehistoric and Protohistoric Antiquities. Notes on their Ages and Distribution.* Madras, 1916.
Frazer, Sir J. G., *The Golden Bough*, 2 vol. ed. London, 1957.
Fuchs, S., *The Gond and Bhumia of Eastern Mandla.* Bombay, 1960.
Ghurye, G. S., *The Mahadev Kolis.* Bombay, 1957.
Gordon, D. H., *The Prehistoric Background to Indian Culture.* Bombay, 1960.
Gover, C. E., 'The Pongal festival of South India', *Journal of the Royal Asiatic Society*, n.s. V, 1870.
Harrison, J., *Prolegomena to the Study of Greek Religion.* Cambridge, 1903.
Hirenath, R. C., 'Linguistic investigation of place-names in Karnatak', *Journal of Indian History*, XXXI, 1953.
Holwerda, J. H., 'Opgravingen het Uddelermeer', *Oudheid kundige Mededelingen*, n.s. VI. Leiden, 1912.
Jackson, A. V. W., *Persia Past and Present.* New York, 1906.
Joshi, S. B., 'Etymology of place-names *Paṭṭi-Haṭṭi*', *Annals of the Bhandarkar Oriental Research Institute*, XXXIII, 1952.
Kanakasabhai, V., *The Tamils Eighteen Hundred Years Ago.* Madras, 1956.
Kane, P. V., *History of Dharmaśāstra*, 5 vols. in progress. Poona, 1930– .
Kasturi, N., 'The hero stones of Mysore', *K.V.R. Aiyangar Commemoration Volume.* Mysore, 1940.
Knox, H., 'Notes on the Kupgal rock paintings', unpublished typescript in library of Royal Anthropological Institute, London.
Koppers, W., 'Zentralindische Fruchtbarkeitsriten und ihre Beziehungen zur Indus-kultur', *Geographica helvetica*, II, no. 1, 1946.
Littlewood, R. W., 'Alambady cattle', *Journal of the Madras Geographical Association*, XI, 1936–7.
Longhurst, A. H., 'The cinder mound at Kudatini in the Bellary district', *Annual Report of the Archaeological Survey of India, 1912–13.* 1916.
Mahadevan, C., 'Geology of the south-western parts of Surapur Taluk of Gulbarga district', *Journal of the Hyderabad Geological Survey*, IV, pt. 1, 1941.
Mahadevan, C., 'Note on the archaeological finds in southern and south-western Shorapur Taluk', unpublished manuscript in the author's possession.
Marr, J. R., 'The eight Tamil anthologies', unpublished Ph.D. thesis for London University, 1958.
Merker, M., *Die Masai.* Berlin, 1904.
Meyer, J. J., *Trilogie, Altindischer Mächte und Feste der Vegetation.* Leipzig, 1937.
Mitra, K., 'Gayadanr festival and its parallels', *Indian Antiquary*, LX and LXI, 1931–32.
Modi, Sir J. J., 'The Gaur tappas of Azerbaijan', *Journal of the Anthropological Society of Bombay*, XIV, 1927–30.

Moticandra, Dr, *Sārthavāha* (in Hindi). Patna, 1953.
Mukherjee, S. K., 'Geology of parts of Surapur and Shahpur Taluks, Gulbarga district', *Journal of the Hyderabad Geological Survey*, IV, pt. I, 1941.
Munn, L., 'Ancient mines and megaliths in Hyderabad', *Memoirs of the Manchester Literary and Philosophical Society*, LXIV, pt. II, 1921.
Munn, L., 'Letters on various topics', *Annual Report of the Hyderabad Archaeological Department, 1927–8*. App. C.
Munn, L., 'Prehistoric and protohistoric finds', *Journal of the Hyderabad Geological Survey*, II, pt. I, 1934.
Munn, L., 'Prehistoric and protohistoric finds in the Raichūr district', *Man in India*, XV, 1935.
Munn, L., 'Archaeological finds in the eastern portion of the Raichūr Doāb', *Journal of the Hyderabad Geological Survey*, III, pt. I, 1936.
Narayan Rao Chilakur, 'Study of place-names in the Anantapur district', *Journal of the Madras Geographical Association*, X, 1935–6.
Natesan Sastri, *Hindu Feasts, Fasts and Ceremonies*. Madras.
Newbold, T. J., 'Note on the occurrence of volcanic scoria in the southern peninsula', *Journal of the Asiatic Society of Bengal*, V, 1836.
Newbold, T. J., 'On some ancient mounds of scorious ashes in Southern India', *Journal of the Royal Asiatic Society*, VII, 1843.
Pearson, W., *Papers, Letters and Journals of William Pearson*. London, 1863.
Richards, F. J., 'Cultural drifts in South India', *Indian Antiquary*, LIX, 1930.
Richards, F. J., 'Geographical factors in Indian archaeology', *Indian Antiquary*, LXII, 1932.
Rivers, W. H. R., *The Todas*. London, 1906.
Roy, S. C., *The Oraons of Chota Nagpur*. Ranchi, 1913.
Sankalia, H. D., *The Archaeology of Gujarat*. Bombay, 1941.
Sankalia, H. D., Subbarao, B. and Deo, S. B., *The Excavations at Maheshwar and Navda Toli, 1952–3*. Poona, 1958.
Sastri, Pandit A. M. (ed.), *The Śaiva Upaniṣads*. Adyar, 1950.
Schapera, I. (ed.), *The Bantu-speaking Tribes of South Africa*. London, 1950.
Sewell, R., 'The cinder mounds of Bellary', *Journal of the Royal Asiatic Society*, n.s. XXXI, 1899.
Silva, S., 'The toponomy of Kanara', *Journal of the Andhra Historical Research Society*, XX, 1949–50.
Sivaraja Pillai, K. N., *Chronology of the Early Tamils*. Madras, 1932.
Spate, O. H. K., *India and Pakistan*. London, 1954.
Srinivas Iyengar, P. T., *History of the Tamils*. Madras, 1929.
Subbarao, B., 'Archaeological exploration in the Bellary area', *Bulletin of the Deccan College Research Institute*, VIII, 1947.
Subbarao, B., *Stone Age Cultures of Bellary*. Poona, 1948.
Subbarao, B., 'Prehistoric and Early Historic cultures of Bellary', unpublished Ph.D. dissertation for the Bombay University, 1949.
Subbarao, B., *The Personality of India*, 2nd ed. Baroda, 1958.
Syed Siraj al Husain, *Castes and Tribes of Hyderabad*. Hyderabad, 1920.
Taylor, Rev. W., *Examination and Analysis of the Mackenzie Manuscripts*. Calcutta, 1838.

Thomsen, V., *Inscriptions de l'Orkhon dechiffrées.* Helsingfors, 1896.
Thurston, E., *Castes and Tribes of Madras*, 7 vols. Madras, 1909.
Thurston, E., *Ethnographic Notes.* Madras, 1905.
Tylor, Sir E. B., *Primitive Culture*, 4th ed. London, 1903.
Vāsudev Śaraṇ Agravāl, *Pṛithvī-putra* (in Hindi). New Delhi, 1949.
Wadia, D. N., *Geology of India*, 2nd ed. London, 1939.
Waterbolk, H. T., 'Overzicht van het Praehistorisch Onderzoek in Drenthe in 1958', *Nieuwe Drentse Volksalmanak*, 1959.
Wheeler, Sir R. E. M., 'Brahmagiri and Chandravalli, 1947', *Ancient India*, no. 4. New Delhi, 1948.
Wheeler, Sir R. E. M., *Early India and Pakistan.* London, 1959.
Woolley, Sir L., 'Some aspects of problems in Indian archaeology', *Journal of the Royal Society of Arts*, LXXXVIII, 1940.
Yazdani, G. L., 'Notes on a survey of Neolithic sites', *Annual Report of the Hyderabad Archaeological Department*, 1935–6.
Zeuner, F. E., 'The origin of the cinder mounds of the Bellary district', *Bulletin of the Institute of Archaeology*, II, 1959.

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